

Canada

ISSUE 3

MAJOR PROJECTS INVENTORY

October, 1985

**Office of Industrial
and Regional Benefits**



**Government
of Canada**

**Regional Industrial
Expansion**

**Gouvernement
du Canada**

**Expansion Industrielle
régionale**

The information in this publication was assembled by the Office of Industrial and Regional Benefits with the generous co-operation of major project sponsors who completed the major project questionnaires.

The Office was created in 1981 to identify promising opportunities arising from major project developments in Canada and to help Canadians in all parts of the country exploit and benefit economically from these opportunities. Through consultations with major project sponsors, the Office ensures that competitive Canadian suppliers of goods and services have full and fair access to major project opportunities. It also promotes the development of Canadian supply capability, where economically warranted, to meet project demand. Another of the Office's functions is to encourage the exchange of information between project sponsors and Canadian companies so that project sponsors will be more aware of the ability of Canadian suppliers and Canadian suppliers better informed of opportunities inherent in major projects.

The Major Projects Inventory publication is a source document for various federal government departments and other bodies.

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**MAJOR PROJECTS INVENTORY
ISSUE 3**

OCTOBER 1985

Prepared by:
Office of Industrial and
Regional Benefits
Department of Regional
Industrial Expansion

c Minister of Supply and Services Canada 1985
Cat. No. C2-72/1985E
ISBN 0-662-14309-4

CONTENTS

	Page
Introduction	3
Summary Tables	
Table 1. Value and Number of Projects by Industry Classification and Status	5
Table 2. Value and Number of Projects by Geographical Location and Industry Classification	6
Table 3. Value and Number of Projects by Geographical Location and Status	8
Project Listings by Province	
Northwest Territories	9
British Columbia	15
Alberta	32
Saskatchewan	56
Manitoba	68
Ontario	72
Quebec	96
New Brunswick	129
Nova Scotia	135
Newfoundland	147
Interprovincial	156
Explanation of Format and Terms Used	181
Index of Sponsor Companies and their Projects	187
How to Order	Inside Back Cover



INTRODUCTION

This publication is an update of the two previous inventories published in October, 1981, and March, 1983. It attempts to present a complete picture of existing and potential major project developments in Canada during the next decade. It has been produced primarily for the benefit of Canadian suppliers to major projects, but should prove helpful also to project sponsors and potential investors, to governments in Canada and to economic analysts and others concerned with projecting and analysing future levels of economic activity across the country.

The **Inventory** contains information on Canadian projects which, in general, have a minimum investment value of \$100 million in 1984 constant dollars and are, or could be, under way before 1995. The information was provided by the sponsors of each project. The **Inventory** covers construction and development projects in the fields of hydrocarbon extraction and processing, petrochemicals, electrical generation and distribution, transportation, industrial minerals, metal mining, primary metals, forest products and other material production. It also covers major public procurement or construction projects.

The project listing includes description, sponsor, location, value, timing and status and may contain additional information on the size and value of major facilities, equipment required and so on. Each project has been assigned one of fifteen industry classifications. The listings are arranged according to geographical location, and within a location by project name. Summary Tables start on page 5.

The name and telephone number of a contact in the sponsor firm is also included for each project. This is intended to encourage would-be Canadian suppliers to make their own direct approaches to sponsors.

An explanation of the format and the terms used and an alphabetical index of sponsor companies with a list of their projects follow the main project listing.

The Inventory has been compiled from a variety of sources but most of the material was generously contributed by the project sponsors in response to questionnaires from the Office. Every effort has been made to present current information but, due to changing economic conditions and the inevitable time lag between receipt and publication of data, some details may be out of date. Further verification with the sponsor companies is therefore recommended before using the information as the basis of any business decision. It should also be remembered that listing of a particular project in this inventory is no guarantee of the project's eventual start or completion.

If we have failed to identify an eligible major project in our listing, we will be happy to include it in future issues. New information and queries concerning the content of this publication should be directed to:

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Department of Regional Industrial Expansion
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Table 1

VALUE AND NUMBER OF PROJECTS
BY INDUSTRY CLASSIFICATION AND STATUS
(million \$)

Classification		Total	Under Construction	Engineering Under way	Possible
Oil and Gas Development	Val. No.	\$23,332 18	\$ 1,035 5	\$12,497 9	\$ 9,800 4
Oil and Gas Exploration	Val. No.	7,304 12	7,039 11	265 1	- -
Paper & Allied Industries	Val. No.	2,839 12	1,143 6	1,063 2	633 4
Primary Metal	Val. No.	3,724 9	2,378 4	946 3	400 2
Refined Petroleum	Val. No.	700 1	- -	- -	700 1
Chemicals & Products	Val. No.	1,575 6	425 3	100 1	1,050 2
Transportation	Val. No.	23,908 26	4,546 12	13,890 8	5,472 6
Pipelines	Val. No.	22,408 13	2,263 5	- -	20,145 8
Electric Power	Val. No.	43,354 35	13,758 10	6,898 11	22,698 14*
Metal Mining	Val. No.	1,798 10	1,088 6	100 1	610 3
Non-Metallic Mining	Val. No.	1,674 5	852 3	122 1	700 1
Coal Mining	Val. No.	2,698 10	425 2	103 1	2,170 7
Government	Val. No.	12,593 11	7,213 5	3,700 3	1,680 3
All Other Industries	Val. No.	1,242 4	992 2	100 1	150 1

* A possible project is included in the Number even though there is no value for it included in the Value subtotal.

Table 2 VALUE AND NUMBER OF PROJECTS
BY GEOGRAPHICAL LOCATION AND INDUSTRY CLASSIFICATION
(million \$)

Classification		NWT	BC	ALTA	SASK	MAN
Oil and Gas Development	Val. \$	860	\$3,000	\$6,975	\$ 450	-
	No.	2	1	9	1	-
Oil and Gas Exploration	Val.	4,158	-	-	-	-
	No.	4	-	-	-	-
Paper & Allied Industries	Val.	-	364	-	-	-
	No.	-	2	-	-	-
Primary Metal	Val.	-	300	-	-	-
	No.	-	1	-	-	-
Refined Petroleum	Val.	-	-	-	-	-
	No.	-	-	-	-	-
Chemicals & Products	Val.	-	500	755	-	-
	No.	-	1	3	-	-
Transportation	Val.	-	1,676	540	-	-
	No.	-	3	3	-	-
Pipelines	Val.	-	740	882	656	-
	No.	-	2	1	2	-
Electric Power	Val.	-	-	4,351	1,206	\$2,049
	No.	-	-	4	2	3
Metal Mining	Val.	-	323	-	585	100
	No.	-	2	-	3	1
Non-Metallic Mining	Val.	-	122	-	1,202	-
	No.	-	1	-	3	-
Coal Mining	Val.	-	1,113	1,160	-	-
	No.	-	4	4	-	-
Government	Val.	-	-	-	-	-
	No.	-	-	-	-	-
All Other Industries	Val.	-	-	-	150	-
	No.	-	-	-	1	-

Table 2 (continued)

ONT	QUE	NB	NS	NFLD	INTERPROV
-	\$ 117	-	\$2,480	\$5,750	\$3,700
-	1	-	1	2	1
-	-	-	839	2,307	-
-	-	-	3	5	-
\$ 115	1,930	\$ 430	-	-	-
1	7	2	-	-	-
1,624	1,800	-	-	-	-
6	2	-	-	-	-
-	-	-	700	-	-
-	-	-	1	-	-
320	-	-	-	-	-
2	-	-	-	-	-
5,343	1,402	-	-	-	14,947
7	6	-	-	-	7
-	867	-	-	-	19,263
-	2	-	-	-	6
11,231	6,055	1,894	11,168	5,400	-
3	14*	3	4	2	-
520	-	-	170	-	100
2	-	-	1	-	1
-	-	350	-	-	-
-	-	1	-	-	-
-	-	-	425	-	-
-	-	-	2	-	-
-	147	-	-	-	12,446
-	1	-	-	-	10
1,092	-	-	-	-	-
3	-	-	-	-	-

* A project is included in the Number even though there is no value for it included in the Value subtotal.

Table 3

VALUE AND NUMBER OF PROJECTS
BY GEOGRAPHICAL LOCATION AND STATUS
(million \$)

Province		Total	Under Construction	Engineering Under Way	Possible
Northwest Territories	Val.	\$ 5,018	\$ 4,218	-	\$ 800
	No.	6	5	-	1
British Columbia	Val.	8,138	1,816	\$ 497	5,825
	No.	17	4	3	10
Alberta	Val.	14,663	3,069	2,457	9,137
	No.	24	7	8	9
Saskatchewan	Val.	4,249	1,502	450	2,297
	No.	12	5	1	6
Manitoba	Val.	2,149	227	1,922	-
	No.	4	2	2	-
Ontario	Val.	20,245	15,051	3,094	2,100
	No.	24	16	6	2
Quebec	Val.	12,318	5,211	5,212	1,895
	No.	33	16	8	9*
New Brunswick	Val.	2,674	550	470	1,654
	No.	6	2	2	2
Nova Scotia	Val.	15,782	1,434	2,837	11,511
	No.	12	6	2	4
Newfoundland	Val.	13,457	2,042	4,015	7,400
	No.	9	4	2	3
Interprovincial	Val.	50,456	8,037	18,830	23,589
	No.	25	7	8	10
TOTAL		\$149,149	\$43,157	\$39,784	\$66,208
		172	74	42	56

* A project is included in the Number even though there is no value for it included in the Value subtotal.

ARCTIC EXPLORATION	
VALUE: \$ 715 million	
Sponsor	Panarctic Oils Ltd.
Class - Type	09 - Oil and Gas Exploration
Location	Northwest Territories - Arctic Islands (Melville, Loughheed and Ellef Ringness)
Description	Panarctic expects to drill 5 exploration wells during the 1986 and 1987 drilling seasons. Estimated value of projected work plan is \$140 million.
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1987
Employment	Construction: 170 person years (for 1986-1987 drilling season)
Contact	R.C. Rankin, Calgary, (403) 269-0537 P03-03

BEST HORN EXPLORATION AND DEVELOPMENT	
VALUE: \$ 60 million	
Sponsor	Panarctic Oils Ltd.
Class - Type	07 - Oil Field Development
Location	Northwest Territories - Cameron Island Arctic Islands
Description	As part of ongoing Arctic development program, Panarctic Oils Ltd. is proceeding to develop an oil well on Cameron Island and ship two million barrels of oil to Eastern Canadian markets in single annual shipments over a nine to ten year period.
Facilities	Airstrip Aggregate Source Marine charter; Access Roads
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1988
Major Equipment	Oil field equipment: \$6 million Tank farm: 9 million
Employment	Construction: 42 person years Permanent: 7 - 10 employees
Contact	K.G. Alexander, Calgary, (403) 269-0503 P03-02

DOME BEAUFORT EXPLORATION PROGRAM

VALUE: \$ 969 million

Sponsor	Dome Petroleum Limited
Class - Type	09 - Crude Oil and Gas Exploration
Location	Northwest Territories - Beaufort Sea off Mackenzie Delta
Description	A program to drill offshore exploratory wells in the Beaufort Sea.
Facilities	Camp
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1987
Major Equipment	Drill ships Supply vessels Icebreakers Drilling caisson 2 Drilling rigs
Employment	Construction: 1,800 person years
Contact	H.J. Strain, Calgary, (403) 231-8080 D03-05

ESSO BEAUFORT SEA EXPLORATION	
VALUE: \$ 800 million	
Sponsor	Esso Resources Canada Ltd.
Class - Type	09 - Crude Oil and Gas Exploration
Location	Northwest Territories - Beaufort Sea/ Mackenzie Delta
Description	A 5 year exploration program including the drilling of seven offshore exploration wells and related seismic activities. The program is about 80% complete.
Facilities	Marine vessels Cranes and heavy construction equipment Drilling rigs and supplies Caisson retained island
Participants	Esso Resources Canada Ltd. Home Oil (operator)
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Major Equipment	Trailing suction hopper dredge
Employment	Construction: 1,250 person years Permanent: 250 employees
Contact	J.E. Lee, Calgary, (403) 237-4058 EO1-03

GULF BEAUFORT SEA EXPLORATION AGREEMENT

VALUE: \$ 1,674 million

Sponsor	Gulf Canada Resources Inc.
Class - Type	09 - Oil and Gas Exploration
Location	Northwest Territories - Beaufort Sea area
Description	Gulf is proceeding with its exploration program, including delineation drilling at promising sites, and expects to spend an estimated \$423 million between 1985 and the end of the Agreement.
Participants	Various Canadian based petroleum companies
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1987
Major Equipment	Conical floating drilling barge Caisson retained island Icebreakers (2) Ice strengthened supply vessels (2)
Contact	A. Bhasin, Calgary, (403) 233-4987 G01-13

TAGLU GAS PLANT	
VALUE: \$ 800 million	
Sponsor	Esso Resources Canada Ltd.
Class - Type	07 - Gas Processing Plant
Location	Northwest Territories - Mackenzie Delta
Description	Construction of a 13 million cubic meter per day gas conditioning plant to process gas from the Taglu gas field including drilling of up to 20 initial gas production wells. The timing is uncertain but the sponsor hopes to complete the project in the 1990's. A pipeline to southern markets would be required such as the Polar Gas Pipeline project listed in the Interprovincial section.
Status	Possible
Contact	J.P.H. Batteke, Calgary, (403) 237-2164 E01-16

ADVANCED LIGHT RAPID TRANSIT, PHASE I											
VALUE: \$ 854 million											
Sponsor	BC Transit										
Class - Type	45 - City Transit										
Location	British Columbia - Downtown Vancouver through Burnaby to downtown New Westminster										
Description	Construction of a Light Rapid Transit line connecting downtown Vancouver to downtown New Westminster involving driverless vehicles which will cover 2 km underground, 6 km at-grade, and 13 km on an elevated guideway.										
Facilities	<table> <tr> <td>Vehicles and controls:</td><td>\$149 million</td></tr> <tr> <td>Guideway:</td><td>251 million</td></tr> <tr> <td>15 stations:</td><td>61 million</td></tr> <tr> <td>Maintenance facility:</td><td>17 million</td></tr> <tr> <td>Bus loops and parking (not incl.):</td><td>10 million</td></tr> </table>	Vehicles and controls:	\$149 million	Guideway:	251 million	15 stations:	61 million	Maintenance facility:	17 million	Bus loops and parking (not incl.):	10 million
Vehicles and controls:	\$149 million										
Guideway:	251 million										
15 stations:	61 million										
Maintenance facility:	17 million										
Bus loops and parking (not incl.):	10 million										
Status	Under construction/Under way										
Timing	Start - 1981 Completion - 1985										
Major Equipment	<table> <tr> <td>Vehicles:</td><td>\$114 million</td></tr> <tr> <td>Power distribution equipment:</td><td>20 million</td></tr> <tr> <td>Linear induction motor & power rail:</td><td>25 million</td></tr> <tr> <td>Trackwork:</td><td>24 million</td></tr> <tr> <td>Command & control equipment:</td><td>10 million</td></tr> </table>	Vehicles:	\$114 million	Power distribution equipment:	20 million	Linear induction motor & power rail:	25 million	Trackwork:	24 million	Command & control equipment:	10 million
Vehicles:	\$114 million										
Power distribution equipment:	20 million										
Linear induction motor & power rail:	25 million										
Trackwork:	24 million										
Command & control equipment:	10 million										
Contractors	Metro Canada Ltd. - General contractor										
Employment	<table> <tr> <td>Construction:</td><td>5,500 person years</td></tr> <tr> <td>Permanent:</td><td>250 employees</td></tr> </table>	Construction:	5,500 person years	Permanent:	250 employees						
Construction:	5,500 person years										
Permanent:	250 employees										
Contact	M.J. O'Connor, Vancouver, (604) 683-8401 B07-01										

ADVANCED LIGHT RAPID TRANSIT, PHASE II													
VALUE: \$ 272 million													
Sponsor	BC Transit												
Class - Type	45 - Transit Construction												
Location	British Columbia - from New Westminster to Whalley (Surrey)												
Description	Extension to ALRT system consisting of 7 km of track and three stations. A cable-stayed bridge will be built across the Fraser river. Operation is planned as early as December 1988.												
Facilities	<table> <tr> <td>Guideway (including bridge):</td><td>\$102 million</td></tr> <tr> <td>Stations and substations:</td><td>22 million</td></tr> <tr> <td>Property:</td><td>22 million</td></tr> </table>	Guideway (including bridge):	\$102 million	Stations and substations:	22 million	Property:	22 million						
Guideway (including bridge):	\$102 million												
Stations and substations:	22 million												
Property:	22 million												
Status	Engineering under way												
Timing	Start - mid 1985 Completion - 1988												
Major Equipment	<table> <tr> <td>Vehicles:</td><td>\$ 10 million</td></tr> <tr> <td>Command and control:</td><td>9 million</td></tr> <tr> <td>Trackwork:</td><td>4 million</td></tr> <tr> <td>Linear induction motor and power rail:</td><td>4 million</td></tr> <tr> <td>Power distribution equipment:</td><td>3 million</td></tr> <tr> <td>Guideway components:</td><td>18 million</td></tr> </table>	Vehicles:	\$ 10 million	Command and control:	9 million	Trackwork:	4 million	Linear induction motor and power rail:	4 million	Power distribution equipment:	3 million	Guideway components:	18 million
Vehicles:	\$ 10 million												
Command and control:	9 million												
Trackwork:	4 million												
Linear induction motor and power rail:	4 million												
Power distribution equipment:	3 million												
Guideway components:	18 million												
Employment	<table> <tr> <td>Construction</td><td>1,995 person years</td></tr> <tr> <td>Permanent:</td><td>300 employees (whole system)</td></tr> </table>	Construction	1,995 person years	Permanent:	300 employees (whole system)								
Construction	1,995 person years												
Permanent:	300 employees (whole system)												
Contact	M.J. O'Connor, Vancouver, (604) 683-8401 B07-02												

EAGLET FLUORSPAR MINE	
VALUE: \$ 122 million	
Sponsor	Eaglet Mines Ltd.
Class - Type	62 - Fluorspar Mine
Location	British Columbia - North side of Quesnel Lake, 40 km from Horsefly.
Description	Development of 5,000 tonnes/day (t/d) underground fluorspar mine including roads, power supply and other infrastructure.
Facilities	Underground mine: \$16 million Processing facilities, 5,000 t/d: 53 million Dock facilities: 25 million Horsefly infrastructure: 5 million Upgrading of roads: 5 million Powerline and infrastructure: 18 million
Status	Engineering under way
Timing	Start - 1985 Completion - 1986
Employment	Permanent: 320 employees
Contact	A. Robertson, Vancouver, (604) 680-9824 E09-01

GAS PIPELINE TO VANCOUVER ISLAND	
VALUE: \$ 400 million	
Sponsor	British Columbia Hydro and Power Authority
Class - Type	46 - Natural Gas Pipeline
Location	British Columbia - submarine pipeline from Delta to Nanaimo and on land from Victoria to Campbell River
Description	Construction of dual 323.8 mm submarine pipeline, Delta to Nanaimo, compressor stations near Delta and Nanaimo and single transmission line (168.3 mm to 323.8 mm) between Victoria and Campbell River with associated distribution facilities. The project is dependent upon approval from the B.C. Government which is subject to negotiations on funding with the Federal Government.
Facilities	406 km transmission pipeline, 168.3 mm - 323.8 mm Compressor stations Distribution system
Status	Possible
Timing	Start - 1986 Completion - Fall 1987 (estimated)
Major Equipment	Mainline pipe: \$19 million Pipe coating materials: 6 million Compression and metering equipment: 6 million Propane-air plant: 3 million Structures: 2 million Construction equipment: 50 million
Employment	Permanent: 120 employees
Contact	C.A. Park, Burnaby, (604) 298-1311 B06-01

GAS TRANSMISSION AND DISTRIBUTION ON VANCOUVER ISLAND

VALUE: \$ 340 million

Sponsor	Inland Natural Gas Co. Ltd.
Class - Type	46 - Natural Gas Pipelines
Location	British Columbia - Victoria to Campbell River
Description	Construction of a 286 km (steel) natural gas transmission pipeline feeding plastic and steel pipe gas distribution systems. The project is dependent on regulatory approvals of the construction of the main pipeline and the plans for natural gas distribution on the island. At present the hearings on the latter aspect have been cancelled pending confirmation of appropriate project funding.
Status	Possible
Major Equipment	Transmission pipelines (steel 114 mm to 400 mm): \$130 million Distribution pipelines (plastic and steel, 40 mm to 219 mm): 210 million
Contact	G.M.O. Solly, Vancouver, (604) 684-0484 J11-01

HARMAC PULP MILL MODERNIZATION	
VALUE: \$ 150 million	
Sponsor	MacMillan Bloedel Limited
Class - Type	27 - Pulp Mill
Location	British Columbia - Nanaimo
Description	Installation of new pulping and bleaching lines to modernize facilities and modestly increase capacity. A decision to proceed with this project as planned depends on completion of financial arrangements currently being negotiated.
Facilities	Pulping line for kraft pulp - capacity of 1,100 tonnes per day Bleaching line for kraft pulp - capacity of 1,100 tonnes per day
Status	Possible
Timing	Start - 1986 Completion - 1988
Major Equipment	New digesters, washers and screens: \$80 million New bleach plant: 40 million Pollution abatement: 20 million
Employment	Permanent: 628 employees
Contact	J.G. Dickinson, Vancouver, (604) 661-8000 M11-01

KUTCHO CREEK MINE

VALUE: \$ 125 million

Sponsor	Esso Resources Canada Ltd.	
Class - Type	61 - Copper/Zinc Mine	
Location	British Columbia - 100 km east of Dease Lake	
Description	Construction of an open pit and underground mine and mill complex.	
Facilities	Mine:	\$36 million
	Mill and surface facilities:	89 million
	Access road:	20 million
Participants	Esso Resources Canada Ltd. (50%) Sumac Mines Ltd. (50%)	
Status	Possible	
Timing	Start - 1987	Completion - 1990
Employment	Construction: 800 person years	
	Permanent: 300 employees	
Contact	K. Lowe, Vancouver, (604) 661-7100 E01-14	

LEAD SMELTER MODERNIZATION AND EXPANSION	
VALUE: \$ 300 million	
Sponsor	Cominco Ltd.
Class - Type	29 - Lead Smelting
Location	British Columbia - Trail
Description	Modernization and expansion of the existing metallurgical operations at Trail.
Status	Possible
Timing	Start - 1987 Completion - 1988
Employment	Construction: 1,600 person years Permanent: 550 employees
Contact	J.E. Fletcher, Trail, (604) 364-4155 C04-01

LINE CREEK COAL EXPANSION

VALUE: \$ 250 million

Sponsor	Crows Nest Resources Ltd.
Class - Type	63 - Coal Mine
Location	British Columbia - 25 km north of Sparwood
Description	Construction of an additional 1.5 to 2 million tonnes per year open pit coal mine. Construction would depend on improved market conditions.
Status	Possible
Employment	Permanent: 400 employees
Contact	C.J.B. Bailey, Calgary, (403) 232-3111 C22-02

MONKMAN COAL PROJECT	
VALUE: \$ 560 million	
Sponsor	Petro-Canada Resources
Class - Type	63 - Metallurgical and Thermal Coal Mine
Location	British Columbia - 120 km southwest of Dawson Creek
Description	Development of a 3.5 million tons per year open-pit mine including coal handling and preparation facilities. Exploration and engineering work has been completed. Stage II approval from the British Columbia government was obtained in August 1981.
Facilities	Rail spurline: \$74 million
Participants	Petro-Canada Resources (50%) Canadian Superior Oil (33 1/3%) McIntyre Mines Ltd. (16 2/3%)
Status	Possible
Timing	Start - 1986 Completion - 1989
Major Equipment	Mine facilities and equipment: \$250 million Coal handling and preparation facilities, 1000 TPH: 190 million
Employment	Construction: 1,350 person years Permanent: 850 employees
Contact	S. O'Brien, Calgary, (403) 296-8000 P04-16

NITROGEN FERTILIZER PLANT	
VALUE: \$ 500 million	
Sponsor	Westcoast Transmission Company Limited
Class - Type	37 - Nitrogen Fertilizer Plant
Location	British Columbia - lower Mainland area of greater Vancouver
Description	Using natural gas feedstock, the project will produce 1,800 tons per day of ammonia and 1,800 tons per day of urea. The output will be used to produce nitrogen fertilizer for Pacific Basin markets, principally on the west coast of the USA.
Facilities	Dock: \$30 million
Participants	Westcoast Transmission Company Ltd. - (33 1/3%) Union Oil of California - (33 1/3%) Chieftain Developments Co. Ltd. - (33 1/3%)
Status	Possible
Timing	Start - 1986 Completion - 1988
Major Equipment	10 Blowers, 3,475 HP total 76 heat exchangers Boilers, 100,000 lbs/h 6 Compressors, 67,000 HP total 4 Steam turbines, 52,000 HP total 1 Gas turbine, 25,000 HP Cooling water tower, 58,000 GPM Power generator, 250 HP 85 Pumps 2 Heaters, 285 & 30 MMBTU/h
Employment	Construction: 1,300 person years Permanent: 200 employees
Contact	R.T. Green, Vancouver, (604) 664-5519 W07-01

QUINSAM COAL MINE		VALUE: \$	103 million												
Sponsor	Quinsam Coal Limited														
Class - Type	63 - Thermal Coal Mine														
Location	British Columbia - 27 km west of Campbell River														
Description	The property is to be developed in stages to reach production, by late 1988, of 1 million tonnes/year (t/a) of clean thermal coal. It is in the stage of receiving environmental permits. Full development is dependent on an increase in world coal prices.														
Facilities	<table><tr><td>Open pit mine development, 1 million t/a:</td><td>\$ 4.9 million</td></tr><tr><td>Mine site services:</td><td>11.1 million</td></tr><tr><td>Coal preparation plant:</td><td>8.5 million</td></tr><tr><td>Barge loading & storage:</td><td>4.9 million</td></tr><tr><td>Truck transportation system</td><td></td></tr><tr><td>Barge hauling system at tidewater to move coal to a coal port</td><td></td></tr></table>			Open pit mine development, 1 million t/a:	\$ 4.9 million	Mine site services:	11.1 million	Coal preparation plant:	8.5 million	Barge loading & storage:	4.9 million	Truck transportation system		Barge hauling system at tidewater to move coal to a coal port	
Open pit mine development, 1 million t/a:	\$ 4.9 million														
Mine site services:	11.1 million														
Coal preparation plant:	8.5 million														
Barge loading & storage:	4.9 million														
Truck transportation system															
Barge hauling system at tidewater to move coal to a coal port															
Participants	Brinco Ltd. (50%) Weldwood of Canada Ltd. (50%)														
Status	Engineering under way														
Timing	Start - 1986	Completion - 1988													
Major Equipment	Mobile equipment including dragline and haul truck:		\$45 million												
Employment	Construction: 88 person years Permanent: 229 employees														
Contact	T.E. Milner, Vancouver, (604) 688-2511														

Q03-01

ROGERS PASS TUNNEL PROJECT	
VALUE: \$ 550 million	
Sponsor	C.P. Limited
Class - Type	45 - Railway Transportation Industry
Location	British Columbia - 45 miles east of Revelstoke
Description	Construction of a tunnel to reduce the grade and increase the capacity of the line through the Rogers Pass area.
Facilities	Mount MacDonald tunnel - 9.1 miles Mount Shaughnessy tunnel - 1.2 miles Ventilation system 5,600 lineal ft. of new railway bridges
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1988
Contractors	Cementation Company (Canada) Ltd. - Ventilation shaft Manning-Kumagai Joint Venture - West portal of Mt. MacDonald and Mt. Shaughnessy tunnels Selkirk Tunnel Constructors - East portal of Mt. MacDonald tunnel Pitts Engineering Construction Ltd. - Viaduct and surface route Dawson Construction - Surface route Goodbrand Construction - Surface route
Employment	Construction: 3,500 person years Permanent: 8 employees
Contact	R.S. Tanaka, Calgary, (403) 266-9236 C18-01

SQUAMISH PULP OPERATION REBUILD	
VALUE: \$ 214 million	
Sponsor	Western Pulp Limited Partnership
Class - Type	27 - Bleached Kraft Pulp Mill
Location	British Columbia - Woodfibre, 12 km by ferry and road to Squamish
Description	Replacement or upgrading of the major facilities and equipment of an existing pulp mill. The addition of facilities to unload raw material and load finished pulp into rail cars. Necessary environmental control facilities are included in the project.
Facilities	Chiphandling, screening and storage: \$10 million Upgraded bleaching plant: 26 million Pulp washing and screening: 11 million Black liquor evaporation & recovery: 48 million Recausticizing & lime kiln: 15 million
Participants	Western Pulp Inc. (0.1%) Western Pulp Limited Partnership (99.9%)
Status	Under construction/Under way
Timing	Start - Jan. 1985 Completion - Nov. 1986
Major Equipment	Recovery boiler: \$13 million Evaporators: 5 million Piping: 10 million
Contractors	H.A. Simons (International) Ltd.
Employment	Construction: 700 person years Permanent: 375 employees
Contact	J. Howard, Vancouver, (604) 665-3821
	W09-01

TELKWA BITUMINOUS COAL MINE

VALUE: \$ 200 million

Sponsor	Crows Nest Resources Ltd.
Class - Type	63 - Coal Mine
Location	British Columbia - Smithers
Description	Construction of a bituminous coal mine.
Status	Possible
Contact	C.J.B. Bailey, Calgary, (403) 232-3111 C22-03

WESTERN CANADA LNG PROJECT	
VALUE: \$ 3,000 million	
Sponsor	Mobil Oil Canada Ltd./Petro-Canada Inc.
Class - Type	07 - LNG Complex
Location	British Columbia - Grassy Point and McLeod Lake
Description	Construction of a liquefaction plant and terminal at which 510 MMCF/D of natural gas from British Columbia and Alberta will be liquefied and shipped to Japan in insulated ship containers for regasification and use as fuel by four large Japanese power utilities.
Facilities	Natural gas pipeline (597 km, 610 mm dia.) Liquefaction plant for conversion of natural gas to liquid LNG Ship carriers, 125,000 cubic metres, (4 or 5)
Participants	Mobil Oil Canada Ltd. (30%) Petro-Canada Inc. (30%) Westcoast Transmission Company Limited (15%) NIC Resources Inc. (15%) Suncor Inc. (10%)
Status	Possible
Timing	Start - 1986 Completion - 1989
Major Equipment	Storage tanks & fabricated structures Gas pipeline Process piping systems <u>NOTE:</u> All but Compressors pipeline and Heat exchangers structures involve LNG ship carriers cryogenic service.
Employment	Construction: 3,200 person years (plant and Permanent: 150 employees pipeline)
Contact	N.P. Blackburn, Calgary, (403) 268-7306 M03-10

WESTMIN R-W MINE	
VALUE: \$ 198 million	
Sponsor	Westmin Resources Limited
Class - Type	61 - Copper, Lead, Zinc Mine
Location	British Columbia - 95 km southwest of Campbell River
Description	Development of new underground mine and expansion of surface plant capacity to 3,000 tons per day.
Facilities	Mine development and related items: \$78 million Hydroelectric system, 8.5 MW: 22 million Mill including surface buildings: 73 million Tailings disposal & environmental: 18 million Dock and concentrate storage: 7 million
Status	Under construction/Under way
Timing	Start - March 1983 Completion - June 1985
Major Equipment	Flotation cells: \$1.5 million Compressors: 1.5 million Generator & Turbine: 1.3 million Hoists: 1.5 million Instrumentation (Modicom Control) 1.0 million
Contractors	Tonto-Lilly/Dynatec Mining - Mine & ventilation Regent Construction/Brittain Steel - Mill, conveyor, penstock Farmer Construction Ltd. - Tailings disposal
Employment	Construction: 840 person years Permanent: 550 employees
Contact	W.P. Stokes, Vancouver, (604) 681-2253 W06-02

ACETIC ACID/VINYL ACETATE PLANT	
VALUE: \$ 550 million	
Sponsor	Celanese Canada Inc.
Class - Type	37 - Petrochemicals
Location	Alberta - Edmonton
Description	Possible construction of a plant to produce acetic acid and vinyl acetates. The project is currently on hold pending improved markets.
Facilities	Acetic acid unit, 365 kt/a Vinyl acetate monomer unit, 400 kt/a
Status	Possible
Timing	Start - 1987 Completion - 1990
Employment	Construction: 1,920 person years Permanent: 148 employees
Contact	J.K. Lambie, Edmonton, (403) 276-9333 C16-01

ALBERTA GAS CHEMICALS - AMMONIA PROJECT

VALUE: \$ 100 million

Sponsor	Alberta Gas Chemicals Ltd.	
Class - Type	37 - Ammonia Plant	
Location	Alberta - Medicine Hat	
Description	Construction of a 1,070 metric tonnes/day ammonia plant (360 kt/a). The ammonia will be produced from surplus hydrogen from an adjacent methanol plant while the nitrogen will be supplied from an air separation plant to be erected at the plant site.	
Facilities	Air separation plant Ammonia synthesis loop Ammonia storage and loading system Hydrogen purification unit	
Status	Engineering under way	
Timing	Start - 3rd quarter 1985	Completion - 1st quarter 1987
Major Equipment	Pressure vessels Heat exchangers Towers Pumps Compressors Instrumentation Electrical switchgear Structural steel	
Employment	Construction: 300 person years Permanent: 50 employees	
Contact	A.E. Egglestone, Edmonton, (403) 482-6361 A20-01	

AMOCO - ELK POINT OIL SANDS PROJECT											
VALUE: \$ 920 million											
Sponsor	Amoco Canada Petroleum Company										
Class - Type	07 - Heavy Oil Production										
Location	Alberta - 165 km east of Edmonton, south of the town of Elk Point										
Description	The project is designed to extract an estimated 24 million cubic metres of oilsands bitumen. Starting in 1984, Amoco undertook to drill 60 wells and construct steam injection and crude oil cleaning facilities. The expected production by the end of 1985 will be 475 cubic metres. Thereafter the scope of the project depends upon the technical and economic feasibility. If fully implemented, the project could produce an estimated 4,200 cubic metres of bitumen per day.										
Facilities	<table> <tr> <td>Drill and complete wells:</td><td>\$379 million</td></tr> <tr> <td>Production treatment facility:</td><td>30 million</td></tr> <tr> <td>Water treatment facilities:</td><td>22 million</td></tr> <tr> <td>Steam injection facilities:</td><td>48 million</td></tr> <tr> <td>Field facilities and piping:</td><td>412 million</td></tr> </table>	Drill and complete wells:	\$379 million	Production treatment facility:	30 million	Water treatment facilities:	22 million	Steam injection facilities:	48 million	Field facilities and piping:	412 million
Drill and complete wells:	\$379 million										
Production treatment facility:	30 million										
Water treatment facilities:	22 million										
Steam injection facilities:	48 million										
Field facilities and piping:	412 million										
Status	Engineering under way										
Timing	Start - 1984 Completion - 1995										
Contractors	Wright Technip Ltd.										
Employment	Construction: 350 person years Permanent: 300 employees										
Contact	P. O'Connell, Calgary, (403) 233-1313 A04-04										

BRYAN MOUNTAIN BITUMINOUS COAL MINE

VALUE: \$

200 million

Sponsor	Crows Nest Resources Ltd.
Class - Type	63 - Coal Mine
Location	Alberta - Robb
Description	Construction of a 1.5 million tonnes per year bituminous coal mine dependent on improved market conditions.
Status	Possible
Employment	Permanent: 400 employees
Contact	C.J.B. Bailey, Calgary, (403) 232-3111 C22-04

CANSTAR (DAPHNE) OIL SANDS	
VALUE: \$ 4,000 million	
Sponsor	Canstar Oil Sands Ltd.
Class - Type	07 - Oil Sands Mining, Extraction, and Upgrading
Location	Alberta - 70 km north of Fort McMurray
Description	Integrated mineable oil sands plant with capacity of 72,000 barrels per day. The technical feasibility study has been completed. The commercial feasibility is currently under discussion with provincial and federal governments.
Facilities	Oil sands mine Extraction plant Upgrader Utilities plant
Participants	Petro-Canada Inc. (50%) Nova, An Alberta Corporation (50%)
Status	Possible
Timing	Start - 1988 Completion - 1993
Major Equipment	Bucketwheel excavators Conveyors Pressure vessels Furnaces Boilers Small and large diameter pipe Structural steel and concrete Pumps
Employment	Construction: 25,000 person years Permanent: 2,200 employees
Contact	T.F. Scott, Calgary, (403) 296-6051 C42-01

CITY OF CALGARY - NORTHWEST LRT PROJECT	
VALUE: \$ 100 million	
Sponsor	City of Calgary
Class - Type	45 - City Transit
Location	Alberta - Calgary
Description	Construction of a 6 km light rail facility to service the northwest quadrant of the city and to facilitate the movement of people during the 1988 Winter Olympics.
Facilities	5 Stations: \$8.0 million Roads (not included in the above value): 7.0 million
Participants	City of Calgary (25%) Province of Alberta (75%)
Status	Engineering under way
Timing	Start - 1985 Completion - 1987
Major Equipment	Rails & ties: \$3.0 million Sub-station: 2.0 million Traction power hardware: 1.5 million Signals: 2.0 million
Employment	Construction: 3,500 person years Permanent: 10 employees
Contact	J.H. Chaput, Calgary, (403) 268-1536 C19-02

COALSPUR THERMAL COAL DEVELOPMENT	
VALUE: \$ 400 million	
Sponsor	Denison Mines Ltd.
Class - Type	63 - Thermal Coal Mine
Location	Alberta - Northwestern Alberta 50 km southeast of Hinton
Description	Development of a 4.2 million tonnes per year open pit mine and coal washing plant. A decision to proceed is contingent on improvement of world prices for thermal coal.
Facilities	138 kV powerline from the Edson substation
Participants	Denison Mines Ltd. (65%) Charbonnages de France Int'l. S.A. (15%) Taiwan Power Co. (10%) Denimil Energie und Mineral A.G. (10%)
Status	Possible
Major Equipment	Open pit mining shovels Trucks and rotary drills Materials handling equipment Coal working plant
Employment	Construction: 1,400 person years Permanent: 733 employees
Contact	W. Ahmed, Vancouver, (604) 669-2226 D04-02

COLD LAKE PRODUCTION PROJECTS, PHASES 1 TO 6	
VALUE: \$ 600 million	
Sponsor	Esso Resources Canada Ltd.
Class - Type	07 - Heavy Oil Production
Location	Alberta - Cold Lake
Description	Phased development of Cold Lake oil sands leases to recover very heavy oil from wells using new drilling and production techniques, including steam injection. Each phase is expected to produce 1,500 cubic metres per day (9,500 b/d) of bitumen.
Facilities	Central plant - steam plant water treatment, tankage: \$300 million Field facilities - drilling, satellites, pipelines: 300 million
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1987
Contractors	Delta/Kenting - Central processing, engineering and construction (Phase 1 & 2) Delta/Dillingham - Central processing, engineering and construction (Phase 3 & 4)
Employment	Construction: 1,200 person years (peak in 1985) Permanent: 360 employees
Contact	L.H. Pakaluk, Calgary, (403) 237-3253 E01-06

EDMONTON LRT	
VALUE: \$ 140 million	
Sponsor	Province of Alberta
Class - Type	45 - Urban Transit
Location	Alberta - Edmonton, from downtown to University
Description	Three-stage development of an existing system, potentially five stations are involved.
Participants	Province of Alberta (75%) City of Edmonton (25%)
Status	Engineering under way
Timing	Start - 1985 Completion - 1993
Contact	R.A. Heise, Calgary, (403) 428-2768 E08-01

EXPANSION OF NOVA'S GAS PIPELINE NETWORK IN ALBERTA	
VALUE: \$ 882 million	
Sponsor	Nova, An Alberta Corporation
Class - Type	46 - Natural Gas Pipeline
Location	Alberta
Description	Expansion of gas transmission pipeline network in Alberta. The ten year expansion plan is approved on a year by year basis in line with current company priorities.
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1993
Major Equipment	Linepipe: \$360 million Compression equipment: 57 million Metering equipment: 33 million
Contact	D.C. Olafson, Calgary, (403) 290-7321 N04-02

GENESSEE GENERATING STATION PHASE I											
VALUE: \$ 524 million											
Sponsor	Edmonton Power										
Class - Type	49 - Thermal Power Station										
Location	Alberta - 50 km west-southwest of Edmonton										
Description	Construction of an 800 MW thermal generating station.										
Status	Under construction/Under way										
Timing	Start - 1982 Completion - 1989										
Major Equipment	<table> <tr> <td>2 steam generators, 400 MW:</td><td>\$134 million</td></tr> <tr> <td>Turbine generators:</td><td>65 million</td></tr> <tr> <td>Electrical equipment:</td><td>73 million</td></tr> <tr> <td>Mechanical equipment:</td><td>110 million</td></tr> <tr> <td>High pressure piping:</td><td>12 million</td></tr> </table>	2 steam generators, 400 MW:	\$134 million	Turbine generators:	65 million	Electrical equipment:	73 million	Mechanical equipment:	110 million	High pressure piping:	12 million
2 steam generators, 400 MW:	\$134 million										
Turbine generators:	65 million										
Electrical equipment:	73 million										
Mechanical equipment:	110 million										
High pressure piping:	12 million										
Contractors	Canron - Structural steel North American Construction Ltd. - Earthwork Combustion Engineering - Steam generation GEC Canada Ltd. - Turbine generation Brown & Root - High pressure piping										
Employment	Construction: 2,100 person years Permanent: 179 employees										
Contact	K. Warren, Edmonton, (403) 428-3470 E04-01										

HEAVY LIFT AIRSHIP PROJECT	
VALUE: \$ 300 million	
Sponsor	Sutherland Airship Corporation
Class - Type	45 - Transportation
Location	Alberta - Red Deer
Description	Two phase development of the airship and its manufacturing procedures, followed by construction of an assembly facility with annual capacity to produce 10 airships, valued at \$30 million each.
Participants	Merchant banking and design expert partners, not yet identified.
Status	Possible
Timing	Start - 1986 Completion - 1990's
Employment	Construction: 1,500 person years Permanent: 700 employees
Contact	R. Sutherland, Edmonton, (403) 438-7408 S35-01

JUDY CREEK MISCIBLE FLOOD PROJECTS (A&B Pools)																									
VALUE: \$ 102 million																									
Sponsor	Esso Resources Canada Ltd.																								
Class - Type	07 - Non-Conventional Oil Development																								
Location	Alberta - Swan Hills, 200 km northwest of Edmonton																								
Description	Modification and construction of field facilities and well reactivation using a common injection system to produce ethane based miscible floods.																								
Facilities	Extraction plant: \$23 million Pipeline/storage for ethane transportation: 50 million																								
Participants	<table><tr><td></td><td><u>'A' Pool</u></td><td><u>'B' Pool</u></td></tr><tr><td>Esso Resources Canada Ltd.</td><td>98%</td><td>74%</td></tr><tr><td>Petro-Canada Inc. (less than)</td><td>1%</td><td></td></tr><tr><td>Dekalb Petroleum Corp. (over)</td><td>1%</td><td></td></tr><tr><td>Denison Mines Canada Ltd.</td><td></td><td>16%</td></tr><tr><td>Canadian Reserve Oil & Gas</td><td></td><td>5%</td></tr><tr><td>Murphy Oil Co. (over)</td><td></td><td>2%</td></tr><tr><td>Suncor (less than)</td><td></td><td>3%</td></tr></table>		<u>'A' Pool</u>	<u>'B' Pool</u>	Esso Resources Canada Ltd.	98%	74%	Petro-Canada Inc. (less than)	1%		Dekalb Petroleum Corp. (over)	1%		Denison Mines Canada Ltd.		16%	Canadian Reserve Oil & Gas		5%	Murphy Oil Co. (over)		2%	Suncor (less than)		3%
	<u>'A' Pool</u>	<u>'B' Pool</u>																							
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Murphy Oil Co. (over)		2%																							
Suncor (less than)		3%																							
Status	Under construction/Under way																								
Timing	Start - 1984 Completion - 1986																								
Major Equipment	Pipe: \$16 million Well material: 7 million Pumps: 2 million Compressors: 2 million																								
Employment	Construction: 495 person years Permanent: 7 employees																								
Contact	W.W. Boucher, Calgary, (403) 237-4917 E01-07																								

KEEPHILLS GENERATING STATION, UNITS 3 & 4	
VALUE: \$ 627 million	
Sponsor	TransAlta Utilities Corp.
Class - Type	49 - Electrical Power Generation
Location	Alberta - west of Edmonton
Description	Construction of an 800 MW coal fired generating station.
Status	Possible
Timing	Start - 1988 Completion - 1995
Major Equipment	2 Coal fired steam boilers, 400 MW Turbine generators Electrical and mechanical equipment
Employment	Construction: 1,900 person years Permanent: 35 employees
Contact	E.R. Simpson, Calgary, (403) 267-3640 T10-02

MCLEOD RIVER COAL PROJECT	
VALUE: \$ 325 million	
Sponsor	Manalta Coal Ltd.
Class - Type	63 - Coal Mine
Location	Alberta - Hinton
Description	Construction of a 4 million tonnes per year thermal coal mine. Production will be for export to Japan. The project received Alberta Government approval but construction is dependent on market conditions.
Facilities	On site infrastructure
Participants	McLeod River Coal Ltd. (70%) Electric Power Development Co. Ltd. of Japan (30%)
Status	Possible
Major Equipment	Mining equipment
Employment	Construction: 1,200 person years Permanent: 300 employees
Contact	R.M. Shaneman, Calgary, (403) 294-5311 M05-01

MERCOCAL PROJECT	
VALUE: \$ 235 million	
Sponsor	Manalta Coal Ltd.
Class - Type	63 - Coal Mine
Location	Alberta - Hinton
Description	Construction of this 2 million tonnes per year thermal coal mine depends on positive market developments.
Participants	Mercoal Minerals Ltd. (80%) Idemitsu Kosan Co. Ltd. (20%)
Status	Possible
Employment	Construction: 900 person years Permanent: 600 employees
Contact	R.M. Shaneman, Calgary, (403) 294-5311 M05-02

NIPISI MISCIBLE FLOOD							
VALUE: \$ 160 million							
Sponsor	Amoco Canada Petroleum Company						
Class - Type	07 - Enhanced Oil Recovery						
Location	Alberta - Nipisi Lake, 88 km north of the town of Slave Lake						
Description	Expansion of the Miscible Flood, an enhanced oil recovery project. The project is divided into 3 stages starting in 1985 and scheduled for completion in 1990. The staged expansion of Miscible Flood scheme will result in an incremental oil production of 14.8 million cubic metres.						
Facilities	<table> <tr> <td>Injection and production wells:</td><td>\$84 million</td></tr> <tr> <td>Plant and Field Facilities:</td><td>45 million</td></tr> <tr> <td>Pipeline:</td><td>20 million</td></tr> </table>	Injection and production wells:	\$84 million	Plant and Field Facilities:	45 million	Pipeline:	20 million
Injection and production wells:	\$84 million						
Plant and Field Facilities:	45 million						
Pipeline:	20 million						
Participants	Amoco Canada Petroleum Co. (15%) Chevron Canada Petroleum Ltd. (15%) Petro-Canada (14%) Texaco Canada Resources (13%) Shell Canada Resources (12%) Royal Trust (9%) Mobil Oil Canada Ltd. (8%) Others (14%)						
Status	Engineering under way						
Timing	Start - 1985 Completion - 1990						
Major Equipment	<table> <tr> <td>Pipe and associated equipment:</td><td>\$12.0 million</td></tr> <tr> <td>Natural gas compressors:</td><td>4.0 million</td></tr> <tr> <td>Natural gas liquid pumps:</td><td>1.5 million</td></tr> </table>	Pipe and associated equipment:	\$12.0 million	Natural gas compressors:	4.0 million	Natural gas liquid pumps:	1.5 million
Pipe and associated equipment:	\$12.0 million						
Natural gas compressors:	4.0 million						
Natural gas liquid pumps:	1.5 million						
Contact	P. O'Connell, Calgary, (403) 233-1313 A04-05						

PEACE RIVER EXPANSION PROJECT	
VALUE: \$ 200 million	
Sponsor	Shell Canada Resources Limited
Class - Type	07 - Heavy Oil Production
Location	Alberta - 55 km northeast of the town of Peace River
Description	Shell Canada Resources will expand its Peace River In-situ Project (PRISP) from an average production rate of 200 cubic metres to 1600 cubic metres per day. This expansion will be located adjacent to and be integrated with the existing pilot project.
Facilities	Field development - 215 wells: \$65 million Plant facilities/tank farm: 42 million Water treatment & steam generation: 4 million Water disposal: 5 million Field facilities: 40 million
Participants	Shell Canada Resources Ltd. (50%) Shell Explorer Limited (50%)
Status	Engineering under way
Timing	Start - July 1985 Completion - Nov. 1986
Major Equipment	Casing and tubing: \$10 million Steam generators: 4 million Distributed control system: 3 million Pump jacks: 10 million Pressure vessels: 2 million Pumps: 3 million Field pipe and valves: 16 million
Employment	Construction: 350 person years Permanent: 100 employees
Contact	F. Klein, Calgary, (403) 232-2526

S06-11

POLYETHYLENE PLANT	
VALUE: \$ 105 million	
Sponsor	Dow Chemical Canada Inc.
Class - Type	37 - Polyethylene Plant
Location	Alberta - Fort Saskatchewan
Description	Construction of a polyethylene plant with a capacity of 118 kilo tonnes per year using Dow technology.
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1985
Employment	Construction: 320 person years Permanent: 80 employees
Contact	D. Aylard, Fort Saskatchewan, (403) 998-8580 E08-01

SHEERNESS POWER PLANT															
VALUE: \$ 700 million															
Sponsor	Alberta Power Ltd.														
Class - Type	49 - Electric Generation														
Location	Alberta - 20 km south of Hanna														
Description	Construction of a thermal power station of 750 MW comprised of 2 units. Unit 1 is to be commissioned in 1985 and unit 2 in 1990. A new substation costing \$19 million is also required but is not part of this project.														
Facilities	Two 375 MW thermal power units														
Participants	Alberta Power Ltd. (50%) TransAlta Utilities Corp. (50%)														
Status	Under construction/Under way														
Timing	Start - 1981 Completion - 1990														
Major Equipment	<table> <tr> <td>Turbine and generators:</td><td>\$ 46 million</td></tr> <tr> <td>Power boilers:</td><td>117 million</td></tr> <tr> <td>Precipitators:</td><td>23 million</td></tr> <tr> <td>Piping:</td><td>20 million</td></tr> <tr> <td>Structural steel:</td><td>52 million</td></tr> <tr> <td>Coal plant:</td><td>13 million</td></tr> <tr> <td>Ash plant:</td><td>23 million</td></tr> </table>	Turbine and generators:	\$ 46 million	Power boilers:	117 million	Precipitators:	23 million	Piping:	20 million	Structural steel:	52 million	Coal plant:	13 million	Ash plant:	23 million
Turbine and generators:	\$ 46 million														
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Piping:	20 million														
Structural steel:	52 million														
Coal plant:	13 million														
Ash plant:	23 million														
Contractors	C.E. Canada Ltd. - Boiler Hitachi - Turbine generator Flakt - Precipitator Dominion Bridge - Structural steel British Steel - High pressure piping														
Employment	Construction: 2,300 person years Permanent: 130 employees														
Contact	V. Stang, Edmonton, (403) 420-7486														

A13-03

SLAVE RIVER HYDRO	
VALUE: \$ 2,500 million	
Sponsor	Alberta Power Ltd.
Class - Type	49 - Hydroelectric Generation
Location	Alberta - Extreme northeast of Alberta
Description	Construction of a 1,800 to 2,000 MW hydro plant, depending on the site chosen, with a 500 kV transmission line to Edmonton. Alternative sites near Fort Smith on the Slave river in northeast Alberta and the Northwest Territories are being considered. Technical feasibility and pre-investment studies have been done. The construction start date depends on the outcome of discussions with government regulatory agencies.
Facilities	Site related (camp, etc.): \$380 million Civil (power house, dam, spillways and intake): 940 million
Participants	Likely participants are the Alberta Government, TransAlta Utilities Corporation and Alberta Power Limited although participation is not yet determined.
Status	Possible
Timing	Start - 1990 Completion - 1997
Major Equipment	Electrical & mechanical equipment: \$430 million Transmission lines: 600 million
Employment	Construction: 13,000 person years Permanent: 146 employees
Contact	R.V. Baer, Edmonton, (403) 420-7667 A13-01

SYNCRUDE DEBOTTLENECK PROJECT									
VALUE: \$ 156 million									
Sponsor	Syncrude Canada Ltd.								
Class - Type	07 - Non-Conventional Crude Oil Development								
Location	Alberta - Mildred Lake, 45 km north of Fort McMurray								
Description	Debottleneck existing facilities to increase capacity from 108,225 b/d to 120,800 b/d. The project is largely completed.								
Facilities	<table> <tr> <td>Mining:</td><td>\$31 million</td></tr> <tr> <td>Extraction:</td><td>13 million</td></tr> <tr> <td>Upgrading:</td><td>94 million</td></tr> <tr> <td>Utilities:</td><td>13 million</td></tr> </table>	Mining:	\$31 million	Extraction:	13 million	Upgrading:	94 million	Utilities:	13 million
Mining:	\$31 million								
Extraction:	13 million								
Upgrading:	94 million								
Utilities:	13 million								
Participants	Esso Resources Canada Ltd. (25%) Petro-Canada Inc. (17%) Alberta Oil Sands Equity (16.74%) Canadian Occidental Petroleum Ltd. (13.23%) Alberta Energy Company Ltd. (10%) Gulf Canada Resources Inc. (9.03%) Others (9%)								
Status	Under construction/Under way								
Timing	Start - 1981 Completion - 1986								
Major Equipment	<table> <tr> <td>Compressors, pumps and drivers:</td><td>\$ 4 million</td></tr> <tr> <td>Towers/columns:</td><td>1 million</td></tr> <tr> <td>Heaters:</td><td>3 million</td></tr> <tr> <td>Mining equipment:</td><td>12 million</td></tr> </table>	Compressors, pumps and drivers:	\$ 4 million	Towers/columns:	1 million	Heaters:	3 million	Mining equipment:	12 million
Compressors, pumps and drivers:	\$ 4 million								
Towers/columns:	1 million								
Heaters:	3 million								
Mining equipment:	12 million								
Contractors	Delta Engineering - Engineering & procurement Stearns Catalytic - Prime contractor								
Employment	Construction: 176 person years								
Contact	R. Bullock, Fort McMurray, (403) 790-5364 S05-01								

WOLF LAKE 2	
VALUE: \$ 130 million	
Sponsor	BP Resources Canada Limited
Class - Type	07 - Heavy Oil Production
Location	Alberta - Wolf Lake
Description	Construction of an in-situ steam stimulation, heavy oil production project. Oil production will be approximately 1,500 cubic metres per day.
Facilities	Steam generation and product treatment: \$45 million Field facility: 20 million
Participants	BP Resources Canada Limited (50%) Petro-Canada (50%)
Status	Engineering under way
Timing	Start - June '86 Completion - Aug. '87
Employment	Construction: 270 person years Permanent: 70 employees
Contact	R.J. Peabody, Calgary, (403) 237-1463 B08-07

BREDBURY POTASH MINE	
VALUE: \$ 700 million	
Sponsor	Potash Corporation of Saskatchewan Mining Ltd.
Class - Type	61 - Potash Mine
Location	Saskatchewan - Bredbury
Description	Development of a 3.2 million tonnes per year, grass roots, potash mining and milling complex. The project is suspended pending improved potash market conditions.
Facilities	Two shafts Underground development, mining and maintenance Surface milling and refining, 3.2 million t/a Maintenance and product loading Tailings and brine disposal area
Status	Possible
Major Equipment	Hoists Conveyors Crushing and grinding equipment Flotation or separation equipment Dryers Centrifuges Cyclones Thickeners Compactors and material handling equipment
Employment	Construction: 925 person years Permanent: 450 employees
Contact	D.J. Irvine, Saskatoon, (306) 664-5993 P15-01

CAN-AM PIPELINE PROJECT	
VALUE: \$ 256 million*	
Sponsor	Foothills Pipe Lines (Yukon) Ltd.
Class - Type	46 - Natural Gas Pipeline
Location	Saskatchewan - Monchy, Sask. and in various U.S. states between Montana and Pennsylvania
Description	Expansion and interconnection of various pipelines to provide for a large increment of Canadian gas to the north central and northeastern U.S.A. Canadian suppliers will be able to pursue opportunities in the U.S.A. This project is competing for regulatory approval in Canada and the U.S.A. with the TransCanada Pipelines Export Facilities project (see the Interprovincial section). (*NOTE: The Canadian portion is \$256 million while the U.S.A. portion is \$1,294 million.)
Participants	Foothills Pipe Lines (Yukon) Ltd. Northern Border Pipeline Co.) Pipeline companies ANR Pipeline Co.) in the U.S.A. Ohio Interstate Pipeline Co.)
Status	Possible
Timing	Start - 1986 Completion - 1987
Major Equipment	Construction equipment Main linepipe Coating and foundation materials Valves and fittings Compression, metering and other equipment
Employment	Construction: 520 person years) Canadian portion Permanent: 12 employees) only
Contact	H.N.E. Hobbs, Calgary, (403) 294-4111 F04-03

CIGAR LAKE URANIUM MINE AND MILL	
VALUE: \$ 350 million	
Sponsor	Cigar Lake Mining Corporation
Class - Type	61 - Uranium mine
Location	Saskatchewan - 115 km northeast of the Key Lake uranium mine
Description	Development of a new uranium mine.
Participants	Saskatchewan Mining Development Corp. (50.75%) Cogema Canada Ltd. (32.625%) Idemitsu Uranium Exploration Canada Ltd. (12.875%) Corona Grande Exploration Corp. (3.751%)
Status	Possible
Timing	Start - 1989 Completion - 1992
Employment	Construction: 2,500 person years Permanent: 400 employees
Contact	G.A. Peebles, Saskatoon, (306) 665-2628 C39-01

COLLINS BAY MINE - ELDOR MINES	
VALUE: \$ 100 million	
Sponser	Eldorado Resources Ltd.
Class - Type	61 - Uranium Mine
Location	Saskatchewan - Rabbit Lake
Description	Development of a 15 million kg uranium ore deposit. Construction is approximately 70% complete and some units are being commissioned.
Facilities	Tailing disposal, effluent treatment and modified process plant facilities.
Status	Under construction/Under way
Timing	Start - mid 1983 Completion - late 1985
Contractors	Eldorado Resources Ltd. - Process engineering Lambrian Engineering Ltd. - Mechanical, structural & electrical Miron Construction - Construction labour
Employment	Construction: 300 person years Permanent: 350 employees* * (continuing rather than new jobs)
Contact	A.R. Morrish, Saskatoon, (306) 382-0505 E05-04

KALIAM CHEMICALS POTASH MINE EXPANSION	
VALUE: \$ 100 million	
Sponsor	PPG Canada Inc.
Class - Type	62 - Potash Mine
Location	Saskatchewan - Belle Plaine, 50 km west of Regina
Description	Expansion of the Belle Plaine solution mining and refining facility by 25% to annual production rate of two million tons per year.
Facilities	Primary separation, crystallization, dewatering and drying Refining, compacting and screening Mining and power distribution
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1987
Major Equipment	Piping, carbon steel, FRP alloy Material handling equipment Alloy construction centrifugal pumps Electrical material Valves Electric motors and gear reducers
Contractors	Stearns-Catalytic Ltd. - Construction, manpower and engineering Empire Iron Works - Structural steel Dominion Bridge - Structural steel Dominion Construction - Building additions Graham Construction - Foundations P. Morsky Construction - Earthwork
Employment	Construction: 450 person years Permanent: 30 employees
Contact	N.B. Beug, Regina, (306) 757-0131 K07-01

LANIGAN PHASE II EXPANSION	
VALUE: \$ 402 million	
Sponsor	Potash Corporation of Saskatchewan Mining Ltd.
Class - Type	62 - Potash Mine
Location	Saskatchewan - Lanigan/Guernsey
Description	Installation of new mining machinery and additional refinery and conveyor systems to increase mine capacity from 1.2 million tonnes per year to 3.15 million tonnes per year. Part of complex is in operation, start-up is expected in early 1986.
Facilities	Coarse ore storage: \$ 4.0 million Mill structure: 87.6 million Interbuilding galleries: 10.5 million Compaction facilities: 9.5 million Product storage: 9.0 million
Status	Under construction/Under way
Timing	Start - 1980 Completion - early 1986
Major Equipment	Marietta 4 rotor mining machines: \$40.0 million Underground conveyor systems: 20.0 million Sieve bend screens: 2.5 million Compactors: 4.4 million
Contractors	Kilborn - Engineering, management & construction Dominion Bridge - Supply & erect structural steel Canped Mechanical Ltd. - Mechanical installation Brown and Root - Mechanical installation
Employment	Construction: 1,100 person years Permanent: 350 employees
Contact	D.J. Irvine, Saskatoon, (306) 664-5993 P15-02

MIDWEST URANIUM MINE							
VALUE: \$ 135 million							
Sponsor	Esso Resources Canada Ltd.						
Class - Type	61 - Uranium Mine						
Location	Saskatchewan - Midwest Lake						
Description	Construction of a new uranium mine and mill complex. The mine is a high grade uranium deposit with potential for extraction by open pit or underground methods. The currently favoured approach is underground mining, with off-site processing at a rate of 3 million pounds per year.						
Facilities	<table> <tr> <td>Mine:</td><td>\$50 million</td></tr> <tr> <td>Surface facilities:</td><td>65 million</td></tr> <tr> <td>Ore handling:</td><td>20 million</td></tr> </table>	Mine:	\$50 million	Surface facilities:	65 million	Ore handling:	20 million
Mine:	\$50 million						
Surface facilities:	65 million						
Ore handling:	20 million						
Participants	Esso Resources Canada Ltd. (50%) Numac Oil & Gas (25%) Bow Valley Industries (12.5%) Mink Mining and Midwest Mining (12.5%)						
Status	Possible						
Timing	Start - 1989 Completion - 1993						
Employment	Construction: 1,200 person years Permanent: 230 employees						
Contact	K. Lowe, Vancouver, (604) 661-7100 E01-15						

NEWGRADE ENERGY - REGINA HEAVY OIL UPGRADER	
VALUE: \$ 450 million	
Sponsor	Federated Cooperatives
Class - Type	07 - Heavy Oil Upgrading
Location	Saskatchewan - Regina
Description	Construction of a heavy oil upgrader integrated with existing oil refinery with a capacity of 50,000 barrels per day.
Facilities	Hydrogen plant Atmospheric residual desulphurization unit Sulphur recovery unit Hydrotreating unit Sour water treater Tankage and utilities
Participants	Federated Cooperatives (50%) Province of Saskatchewan (50%)
Status	Engineering under way
Timing	Start - Fall 1985 Completion - Fall 1988
Major Equipment	Pressure vessels Heat exchangers Compressors and blowers Furnaces Tanks, piping and valves Towers Buildings Computers Pumps Coolers
Employment	Construction: 2,800 person years Permanent: 80 employees
Contact	L. Court, Regina, (306) 424-2484

F14-01

NIPAWIN HYDROELECTRIC STATION	
VALUE: \$ 500 million	
Sponsor	Saskatchewan Power Corporation
Class - Type	49 - Electrical Generating Station
Location	Saskatchewan - Nipawin
Description	Construction of a 252 MW, 3 unit hydraulic power station including 2 dams on the Saskatchewan river and a power house with spillway.
Facilities	Switching station Transmission lines
Status	Under construction/Under way
Timing	Start - 1981 Completion - 1986
Major Equipment	3 Hydraulic turbine generators, 84 MW Electrical and mechanical equipment
Contractors	Kace - General civil contract Canadian General Electric - Supply and install generators Marubeni Ltd. - Supply and install turbines
Employment	Construction: 1,500 person years Permanent: 20 employees
Contact	J. Dibson, Nipawin, (306) 862-9893 S26-01

RIVERHURST EAST IRRIGATION PROJECT

VALUE: \$ 150 million

Sponsor	PFRA & Saskatchewan Dept. of Agriculture
Class - Type	90 - Agricultural Irrigation Project
Location	Saskatchewan - West of Moose Jaw
Description	Irrigation of 86,000 acres of farmland by pumping and distribution through gravity canals and laterals to sprinklers.
Facilities	Main canal and laterals lined with membrane Pressing stations Steel discharge pipes
Participants	Federal and Provincial governments
Status	Possible
Employment	Construction: 1,300 person years Permanent: 30 employees
Contact	H.M. Hill, Regina, (306) 359-5081

P13-03

SASKATCHEWAN 600 MW THERMAL POWER PROJECT											
VALUE: \$ 706 million											
Sponsor	Saskatchewan Power Corporation										
Class - Type	49 - Electrical Power Generation										
Location	Saskatchewan - Location not established.										
Description	Construction of a 600 MW, two unit lignite coal fired power station.										
Facilities	<table> <tr> <td>Buildings and structures:</td><td>\$ 78 million</td></tr> <tr> <td>Boiler plant:</td><td>10 million</td></tr> <tr> <td>Turbine plant:</td><td>116 million</td></tr> <tr> <td>Electrical auxiliaries:</td><td>42 million</td></tr> <tr> <td>Mechanical auxiliaries:</td><td>186 million</td></tr> </table>	Buildings and structures:	\$ 78 million	Boiler plant:	10 million	Turbine plant:	116 million	Electrical auxiliaries:	42 million	Mechanical auxiliaries:	186 million
Buildings and structures:	\$ 78 million										
Boiler plant:	10 million										
Turbine plant:	116 million										
Electrical auxiliaries:	42 million										
Mechanical auxiliaries:	186 million										
Status	Possible										
Timing	Start - 1987 Completion - 1994										
Major Equipment	Two coal fired steam boilers, 300 MW Turbine generators Electrical and mechanical equipment										
Employment	Construction: 980 person years Permanent: 160 employees										
Contact	R.H. Hamilton, Regina (306) 366-1983 325-105										

SASKATCHEWAN POWER - NATURAL GAS DISTRIBUTION PROGRAM

VALUE: \$ 400 million

Sponsor	Saskatchewan Power Corporation										
Class - Type	46 - Natural Gas Distribution										
Location	Saskatchewan - covers much of the province										
Description	The program, started in 1983, is intended to extend natural gas service to approximately 25,000 farms and 10,000 residential customers in rural communities over a ten year period.										
Facilities	<table> <tr> <td>Compression stations (shared):</td><td>\$ 1 million</td></tr> <tr> <td>Steel pipelines:</td><td>80 million</td></tr> <tr> <td>Polyethylene pipelines:</td><td>310 million</td></tr> <tr> <td>Regulator stations:</td><td>4 million</td></tr> <tr> <td>Storage caverns (shared):</td><td>5 million</td></tr> </table>	Compression stations (shared):	\$ 1 million	Steel pipelines:	80 million	Polyethylene pipelines:	310 million	Regulator stations:	4 million	Storage caverns (shared):	5 million
Compression stations (shared):	\$ 1 million										
Steel pipelines:	80 million										
Polyethylene pipelines:	310 million										
Regulator stations:	4 million										
Storage caverns (shared):	5 million										
Participants	Saskatchewan Power Corporation (76%) Customer contribution (16%) Department of Mines and Resources (8%)										
Status	Under construction/Under way										
Timing	Start - 1983 Completion - 1992										
Major Equipment	<table> <tr> <td>Steel pipe:</td><td>\$ 28.0 million</td></tr> <tr> <td>Plastic pipe:</td><td>140.0 million</td></tr> <tr> <td>New furnaces & appliances purchased as a result:</td><td>6.7 million</td></tr> </table>	Steel pipe:	\$ 28.0 million	Plastic pipe:	140.0 million	New furnaces & appliances purchased as a result:	6.7 million				
Steel pipe:	\$ 28.0 million										
Plastic pipe:	140.0 million										
New furnaces & appliances purchased as a result:	6.7 million										
Contractors	Approximately sixty contracts have been awarded for engineering and construction throughout the province.										
Contact	B.A. Stewart, Regina, (306) 556-2480 S26-06										

LIMESTONE GENERATING STATION											
VALUE: \$ 1,245 million											
Sponsor	Manitoba Hydro										
Class - Type	49 - Hydroelectric Generation										
Location	Manitoba - Nelson River near Gillam										
Description	Construction of a 1,230 MW 10 unit hydroelectric station. Installation of project infrastructure started in 1975 and is largely completed. Additional work on some camp, townsite and other areas costing approximately \$15 million might be needed.										
Facilities	<table> <tr> <td>Powerhouse:</td><td>\$531 million</td></tr> <tr> <td>Earth fill dam and dykes:</td><td>28 million</td></tr> <tr> <td>Spillway:</td><td>124 million</td></tr> </table>	Powerhouse:	\$531 million	Earth fill dam and dykes:	28 million	Spillway:	124 million				
Powerhouse:	\$531 million										
Earth fill dam and dykes:	28 million										
Spillway:	124 million										
Status	Engineering under way										
Timing	Start - 1985 Completion - 1990										
Major Equipment	<table> <tr> <td>10 Hydroelectric turbines:</td><td>\$ 79 million</td></tr> <tr> <td>10 Generators:</td><td>90 million</td></tr> <tr> <td>Intake gates:</td><td>42 million</td></tr> <tr> <td>Spillway gates:</td><td>24 million</td></tr> <tr> <td>Power transformers:</td><td>11 million</td></tr> </table>	10 Hydroelectric turbines:	\$ 79 million	10 Generators:	90 million	Intake gates:	42 million	Spillway gates:	24 million	Power transformers:	11 million
10 Hydroelectric turbines:	\$ 79 million										
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Spillway gates:	24 million										
Power transformers:	11 million										
Employment	<table> <tr> <td>Construction:</td><td>6,000 person years (peak)</td></tr> <tr> <td>Permanent:</td><td>30 employees</td></tr> </table>	Construction:	6,000 person years (peak)	Permanent:	30 employees						
Construction:	6,000 person years (peak)										
Permanent:	30 employees										
Contact	D.R. Dawson, Winnipeg, (204) 474-3714 M07-01										

NELSON RIVER BIPOLE II, STAGES 2 AND 3

VALUE: \$

127 million

Sponsor	Manitoba Hydro
Class - Type	49 - Electric Transmission
Location	Manitoba - Nelson River to Winnipeg
Description	Installation of high voltage direct current conversion equipment for transmission of 900 MW at 500 kV DC from Henday Station on the Nelson river to Dorsey Station, 9 km from Winnipeg.
Status	Under construction/Under way
Timing	Start - 1979 Completion - 1986
Major Equipment	HV rectifier equipment Power transformers Protection equipment Transmission line, 500 miles
Employment	Construction: 525 person years
Contact	S.M. Naqvi, Winnipeg, (204) 474-3854 M07-02

NELSON RIVER BIPOLE III, STAGE 1																	
VALUE: \$ 677 million																	
Sponsor	Manitoba Hydro																
Class - Type	49 - Electric Power Transmission																
Location	Manitoba - Nelson River to Winnipeg																
Description	Installation of high voltage direct current conversion equipment for transmission of 900 MW at 250 kV DC from Henday Station to Riel Station, 1 km east of Winnipeg.																
Facilities	<table> <tr> <td>AC equipment installations:</td><td>\$ 20 million</td></tr> <tr> <td>DC equipment installations:</td><td>380 million</td></tr> <tr> <td>Transmission line (915 km):</td><td>237 million</td></tr> <tr> <td>Communications:</td><td>5 million</td></tr> <tr> <td>VAK compensation:</td><td>35 million</td></tr> </table>	AC equipment installations:	\$ 20 million	DC equipment installations:	380 million	Transmission line (915 km):	237 million	Communications:	5 million	VAK compensation:	35 million						
AC equipment installations:	\$ 20 million																
DC equipment installations:	380 million																
Transmission line (915 km):	237 million																
Communications:	5 million																
VAK compensation:	35 million																
Status	Engineering under way																
Timing	Start - Apr. 1988 Completion - Mar. 2001																
Major Equipment	<table> <tr> <td>Thyristor valves, control & protection:</td><td>\$ 50 million</td></tr> <tr> <td>Converter buildings:</td><td>20 million</td></tr> <tr> <td>DC switchyard & line smoothing:</td><td>10 million</td></tr> <tr> <td>Converter transformers:</td><td>24 million</td></tr> <tr> <td>AC & DC filters:</td><td>10 million</td></tr> <tr> <td>Synchronous condensers:</td><td>25 million</td></tr> <tr> <td>AC switchyards:</td><td>11 million</td></tr> <tr> <td>HVDC transmission line:</td><td>110 million</td></tr> </table>	Thyristor valves, control & protection:	\$ 50 million	Converter buildings:	20 million	DC switchyard & line smoothing:	10 million	Converter transformers:	24 million	AC & DC filters:	10 million	Synchronous condensers:	25 million	AC switchyards:	11 million	HVDC transmission line:	110 million
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HVDC transmission line:	110 million																
Employment	<table> <tr> <td>Construction:</td><td>3,200 person years</td></tr> <tr> <td>Permanent:</td><td>50 employees</td></tr> </table>	Construction:	3,200 person years	Permanent:	50 employees												
Construction:	3,200 person years																
Permanent:	50 employees																
Contact	S.M. Naqvi, Winnipeg, (204) 474-3854 M07-03																

THOMPSON OPEN PIT NICKEL MINE	
VALUE: \$ 100 million	
Sponsor	INCO Limited
Class - Type	61 - Nickel Mine
Location	Manitoba - Thompson
Description	Construction of an open pit mine including services and equipment.
Facilities	Crushing facilities Service Buildings
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Contractors	Kesmark Ltd., (Marine Division) - Dredging of overburden
Employment	Construction: 450 person years Permanent: 75 employees
Contact	K.L. Somerville, Thompson (204) 677-5211 J07-02

ALGOMA STEEL PLANT IMPROVEMENTS	
VALUE: \$ 238 million	
Sponsor	Algoma Steel Corporation Limited
Class - Type	29 - Steel Mill
Location	Ontario - Sault Ste. Marie
Description	Construction of new facilities to cast rounds of 220 and 270 mm in diameter and blooms of 267 X 320 mm, new facilities for ladle refining to produce ultra clean steels, and modernization of the rail mill facilities to meet stringent demands for material integrity, straightness, greater length and head hardness.
Facilities	Power substations Rail head hardening facility Rail finishing facilities
Status	Engineering under way
Timing	Start - 1985 Completion - 1988
Major Equipment	Metallurgical equipment Bloom/round casting equipment
Employment	Construction: 430 person years
Contact	W. Locke, Sault Ste. Marie, (705) 945-2770 A05-05

ALGOMA STEEL SEAMLESS TUBE MILL

VALUE: \$ 350 million

Sponsor	Algoma Steel Corporation Limited
Class - Type	29 - Steel Mill
Location	Ontario - Sault Ste. Marie
Description	Construction of additional seamless tube mill facilities to ultimately produce 300,000 tons per year of casing, tubing, and other oil country goods in size ranges from 2 to 7 inches. The existing tube mill (Mill No. 1) will also be upgraded.
Facilities	Water treatment plant Pipe finishing and loading facilities
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1987
Major Equipment	Reheat furnace Piercing mill Mandrel mill Stretch reducing mill Additional rail track
Contractors	Fenco Engineers Inc. - Engineering, construction & project management Stone and Webster - Civil works
Employment	Construction: 500 person years Permanent: 300 employees
Contact	W. Locke, Sault Ste. Marie, (705) 945-2770 A05-01

BRAMPTON CAR ASSEMBLY PLANT AND RELATED FACILITIES	
VALUE: \$ 764 million	
Sponsor	American Motors Canada Inc.
Class - Type	90 - Automobile Manufacturing Plant and Related Satellite and Supplier Facilities
Location	Ontario - Brampton
Description	Construction of an automobile plant with North American product mandate to manufacture a new line of intermediate size cars. The plant would have a capacity of 200,000 cars per year. The total investment is made up of \$422 million for the plant itself and \$342 million for tooling, land, satellite and supplier facilities and related engineering costs.
Participants	The federal and provincial governments will invest up to \$121 million in the plant on a 50:50 basis.
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1987
Major Equipment	Automated manufacturing and robotics systems.
Employment	Construction: 1,400 person years Permanent: 3,000 employees
Contact	S.R. Perkins, Detroit, (313) 827-7977 A23-01

BRUCE 'B' NUCLEAR GENERATING STATION									
VALUE: \$ 4,887 million									
Sponsor	Ontario Hydro								
Class - Type	49 - Electrical Generating Station								
Location	Ontario - Port Elgin								
Description	Construction of a 3,124 MW, 4 unit nuclear power station.								
Facilities	<table> <tr> <td>Nuclear systems:</td><td>\$673 million</td></tr> <tr> <td>Turbine generators:</td><td>610 million</td></tr> <tr> <td>Electrical systems:</td><td>252 million</td></tr> <tr> <td>Powerhouse:</td><td>171 million</td></tr> </table>	Nuclear systems:	\$673 million	Turbine generators:	610 million	Electrical systems:	252 million	Powerhouse:	171 million
Nuclear systems:	\$673 million								
Turbine generators:	610 million								
Electrical systems:	252 million								
Powerhouse:	171 million								
Status	Under construction/Under way								
Timing	Start - 1976 Completion - 1987								
Contractors	Canadian General Electrical - Turbine generators Babcock and Wilcox - Steam generators Canron - Structural steel								
Employment	Construction: 18,323 person years Permanent: 600 employees								
Contact	R.A. Brown, Toronto, (416) 592-5097 002-02								

CAST SLAB PROGRAM	
	VALUE: \$ 608 million
Sponsor	Dofasco Inc.
Class - Type	29 - Steel Mill
Location	Ontario - Hamilton
Description	Installation of a system to permit uninterrupted production from molten state to coiled product including improved chemical, physical and surface properties. Detailed engineering is under way and construction is approved to proceed but has not started.
Facilities	Slab caster, 2.4 million tons/year, slab reheat furnaces and modifications to the basic oxygen furnace in No. 2 steelmaking shop.
Status	Engineering under way
Timing	Start - 1985 Completion - 1987
Major Equipment	Two strand continuous casting machine: \$263 million Two slab reheat furnaces and slab handling equipment: 196 million Two hot rolling strands, a second downcoiler: 87 million Cranes, turntables, ladles etc.: 62 million
Contractors	Dravo - Consultation, caster facility Canadian General Electric - Engineering consultation, drive and controls Acres Engineering - Consultation, construction of furnaces/rolling and coiling.
Employment	Construction: 1,500 person years Permanent: 100 employees
Contact	B.J. Ciprietti, Hamilton, (416) 544-3761 D06-02

C-I-L AMMONIA PLANT EXPANSION	
VALUE: \$ 220 million	
Sponsor	C-I-L Inc.
Class - Type	37 - Ammonia Plant
Location	Ontario - Sarnia
Description	Construction of a new ammonia unit to increase plant capacity by 373,000 tonnes per year to 723,000 tonnes per year.
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1985
Contractors	Uhde GmbH - Battery limits design and construction C-I-L Engineering Dept. - Offsites design and procurement Bechtel Canada/C-I-L Inc. - Construction management
Employment	Construction: 450 person years Permanent: 20 employees
Contact	G. Dutton, North York, (416) 229-7000 C07-02

FUTURE RT	
VALUE: \$ 1,908 million	
Sponsor	Toronto Transit Commission
Class - Type	45 - Rapid Transit Line
Location	Ontario - Metro Toronto
Description	Construction of a major east-west rapid transit line north of the Bloor-Danforth line. The exact alignment of the route is under study. This project replaces the previously listed Sheppard Line East and Waterfront and Radial projects.
Facilities	Structures and rolling stock: \$1,718 million
Participants	Province Ontario (75%) Metropolitan Toronto (25%)
Status	Engineering under way
Timing	Start - 1984 Completion - 1998
Employment	Permanent: 230 employees
Contact	S.T. Lawrence, Toronto, (416) 481-4252, Ext. 1207
T08-05	

GO-ALERT - CENTRAL LAKESHORE	
VALUE: \$ 2,000 million	
Sponsor	Province of Ontario
Class - Type	45 - Urban Transportation
Location	Ontario - Oakville to Pickering service
Description	Construction of an urban transportation system from Oakville to Pickering. A feasibility study is under way to establish a route for an exclusive right-of-way adjacent to or within the present CNR right-of-way. Depending on approvals and construction priorities, work could begin on the eastern portion of the Oakville to Pickering expansion sometime in the early to mid 1990's.
Status	Possible
Timing	Start - 1992 Completion - 2017
Contact	R.C. Ducharme, Downsview, (416) 630-5220 G09-03

GO-ALET - PICKERING TO OSHAWA SECTION

VALUE: \$ 335 million

Sponsor	Province of Ontario	
Class - Type	45 - Urban Transportation	
Location	Ontario - Between Pickering & Oshawa	
Description	A twin track, electrically powered train service (automatic train control) between Pickering and Oshawa. The service will connect with GO Transit to downtown Toronto.	
Facilities	Civil and track work:	\$88.9 million
	Stations:	15.9 million
	Maintenance facilities:	12.9 million
Status	Under construction/Under way	
Timing	Start - 1984	Completion - 1988
Major Equipment	Train control systems:	\$22.5 million
	Power distribution:	18.6 million
	Vehicles:	75.2 million
Contractors	Urban Transportation Development Corporation	
Contact	D. Sutherland, Downsview, (416) 630-7990 G09-02	

GO-ALERT - WEST EXTENSION	
VALUE: \$ 520 million	
Sponsor	Province of Ontario
Class - Type	45 - Urban Transportation
Location	Ontario - Greater Toronto area
Description	Construction of a rapid transit facility to cater to public travel demands in the greater Toronto area - Oakville to Hamilton; generally parallel and adjacent to CNR Oakville subdivision.
Facilities	Track and related civil infrastructure Stations Maintenance facilities
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1990
Major Equipment	Vehicles Power supply Command and control systems
Contact	K.R. Pask, Downsview, (416) 630-7990 GC9-01

HARBOURFRONT - SPADINA - CNE LRT	
VALUE: \$ 140 million	
Sponsor	Toronto Transit Commission
Class - Type	45 - Light Rapid Transit
Location	Ontario - Metro Toronto
Description	Construction of street car routes connecting harbourfront development to Union Station, Spadina Station and the CNE.
Facilities	Structures: \$66 million
Participants	Province of Ontario (75%) Metropolitan Toronto (25%)
Status	Engineering under way
Timing	Start - 1984 Completion - 1990
Major Equipment	Rolling Stock: \$58 million
Employment	Permanent: 100 employees (est.)
Contact	S.T. Lawrence, Toronto, (416) 481-4252, Ext. 1207 T08-06

HEMLO	
VALUE: \$ 250 million	
Sponsor	Lac Minerals Ltd.
Class - Type	61 - Gold Mine
Location	Ontario - 30 km east of Marathon
Description	Initial development of a gold mine and mill which is planned to achieve a capacity of 3,000 tonnes per day (t/d) of ore in 1986 with expansion to 6,000 t/d in 1988.
Facilities	Housing for employees
Status	Under construction/Under way
Timing	Start - April 1984 Completion - 1989
Major Equipment	Underground mining equipment Milling equipment Pipelines
Employment	Permanent: 600 employees
Contact	J.M. Gibbs, Toronto, (416) 865-0722 L08-01

HONDA OF CANADA MANUFACTURING PLANT

VALUE: \$ 100 million

Sponsor	Honda of Canada Manufacturing Inc.
Class - Type	90 - Automobile Manufacturing Plant
Location	Ontario - Near Alliston
Description	Construction of a greenfields major automobile production facility.
Status	Engineering under way
Timing	Start - 1985 Completion - 1987
Employment	Permanent: 350 employees
Contact	C. Ambeault, Rexdale, (416) 674-0410 H15-01

HYDROGEN PEROXIDE PLANT	
VALUE: \$ 100 million	
Sponsor	Du Pont Canada Inc.
Class - Type	37 - Hydrogen Peroxide Plant
Location	Ontario - Maitland
Description	Construction of a world scale plant at Du Pont's existing Maitland Works to manufacture hydrogen peroxide with an annual capacity of 36 million kg/year.
Facilities	Peroxide plant: \$85 million Hydrogen plant: 10 million Transportation equipment: 5 million
Status	Under construction/Under way
Timing	Start - Nov. 1984 Completion - Sept. 1986
Major Equipment	Peroxide process equipment: \$30 million Piping and valves: 15 million Instrumentation and computers: 10 million Foundations and buildings: 10 million Process materials: 5 million Design and construction management: 15 million Hydrogen plant: 10 million Transport equipment: 5 million
Contractors	Kilborn Kellogg Rust - Construction management
Employment	Construction: 400 person years Permanent: 100 employees
Contact	F. Karman, Mississauga, (416) 821-5723 D10-01

KENORA MILL MODERNIZATION	
VALUE: \$ 115 million	
Sponsor	Boise Cascade Canada Ltd.
Class - Type	27 - Paper Mill
Location	Ontario - Kenora
Description	Modernization of the wood yard, installation of new pulping plant and rebuilding of two paper machines.
Facilities	Ultra-high yield sulphite pulping plant
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1985
Major Equipment	New paper machine press
Employment	Construction: 600 person years
Contact	C. Stillar, Kenora, (807) 468-5511 B20-01

NORANDA HEMLO PROJECT									
VALUE: \$ 270 million									
Sponsor	Noranda Inc.								
Class - Type	61 - Gold Mine								
Location	Ontario - Hemlo								
Description	Underground mine and surface facilities to produce gold bullion from 2,500 tonnes per day of ore. Surface facilities are generally complete but underground development, housing and further surface expansion will continue to 1987.								
Facilities	<table> <tr> <td>Mine, 3,000 tonnes per day:</td><td>\$125 million</td></tr> <tr> <td>Mill:</td><td>120 million</td></tr> <tr> <td>Housing & infrastructure:</td><td>25 million</td></tr> </table>	Mine, 3,000 tonnes per day:	\$125 million	Mill:	120 million	Housing & infrastructure:	25 million		
Mine, 3,000 tonnes per day:	\$125 million								
Mill:	120 million								
Housing & infrastructure:	25 million								
Participants	Noranda Inc. (50%) Goliath Gold Mines Ltd. and Golden Sceptre Resources Ltd. (50%)								
Status	Under construction/Under way								
Timing	Start - June 1983 Completion - 1987								
Major Equipment	<table> <tr> <td>Piping:</td><td>\$10 million</td></tr> <tr> <td>Bins, tanks, vessels, chutes:</td><td>5 million</td></tr> <tr> <td>Crushers, grinding mills & screens:</td><td>4 million</td></tr> <tr> <td>Electrical hoists, cranes, skips:</td><td>5 million</td></tr> </table>	Piping:	\$10 million	Bins, tanks, vessels, chutes:	5 million	Crushers, grinding mills & screens:	4 million	Electrical hoists, cranes, skips:	5 million
Piping:	\$10 million								
Bins, tanks, vessels, chutes:	5 million								
Crushers, grinding mills & screens:	4 million								
Electrical hoists, cranes, skips:	5 million								
Contractors	Kilborn Limited; MacIsaac Mining & Tunneling; Lemay Vican Inc.; Sheaffer-Townsend; ICS; Mathews								
Employment	<table> <tr> <td>Construction:</td><td>1,200 person years</td></tr> <tr> <td>Permanent:</td><td>300 employees</td></tr> </table>	Construction:	1,200 person years	Permanent:	300 employees				
Construction:	1,200 person years								
Permanent:	300 employees								
Contact	F.X. Koch, Toronto, (416) 867-7197 N13-02								

NO. 1 COMBINATION BLOOM/SLAB AND NO.2 SLAB CASTER

VALUE: \$ 228 million

Sponsor	Stelco Inc.
Class - Type	29 - Steel Mill
Location	Ontario - Hamilton
Description	Construction of a continuous caster for Hilton Works to be associated with existing 3 vessel, basic oxygen furnace. Annual capacity to produce steel slabs 200 mm and 240 mm thick and 1,016 mm to 2,032 mm wide or steel blooms 305 mm thick by 560 mm wide will be 2 million tonnes of slabs or 1.82 million tonnes of slabs and blooms.
Facilities	Buildings: \$27 million Maintenance and support: 49 million
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1987
Major Equipment	Slab casters: \$102.0 million Piping: 20.0 million Electrics: 16.0 million Cranes: 12.5 million Mobile equipment: 1.5 million Ladles, ladle stands, ladle re-heat, ladle trim station, and transfer cars included in the above.
Contractors	Mitsui/Demag/Hatachi (letter of Intent for two casting machines)
Contact	S.Y. Shiraishi, Hamilton, (416) 528-2511 S29-02

OSHAWA STAMPING PLANT	
VALUE: \$ 228 million	
Sponsor	General Motors of Canada Limited
Class - Type	90 - Automobile Manufacturing Plant
Location	Ontario - Oshawa
Description	Construction of a stamping plant to supply body panels for G.M.'s Oshawa car assembly plants. The plant will be the first of its kind in North America. The 360,000 square foot building is linked to the two assembly plants by automated material handling systems.
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1988
Major Equipment	Eight tri-axis transfer presses
Employment	Construction: 1,000 person years Permanent: 550 employees
Contact	N. Stewart, Oshawa, (416) 644-7441

G07-02

OTTAWA-CARLETON RAPID TRANSIT SYSTEM

VALUE: \$ 269 million

Sponsor	Regional Municipality of Ottawa-Carleton
Class - Type	45 - Urban Transportation
Location	Ontario - Ottawa-Carleton
Description	Construction of a 31 km system of bus only roadways with an estimated 28 stations. Ten kilometres of roadways and 10 stations were completed by November 1984. Three kilometres of roadways and 3 stations are currently under construction.
Participants	Province of Ontario (75%) Regional Municipality of Ottawa-Carleton (25%)
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1990
Contractors	Dibblee; Taggart; Pitts; Dagmar; Doran; MacFarland
Contact	I.G. Stacey, Ottawa, (613) 560-1293 R10-01

PICKERING 'A' RETUBING	
VALUE: \$ 401 million	
Sponsor	Ontario Hydro
Class - Type	49 - Electrical Generating Station
Location	Ontario - Pickering
Description	Removal of old, and installation of new, reactor channels in units 1 and 2 of the Pickering nuclear generating station following pressure tube failures.
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1987
Major Equipment	Pressure tubes
Contractors	Chase Nuclear - Pressure tubes
Employment	Construction: 420 person years Permanent: no increase
Contact	W.J. Penn, Toronto, (416) 592-6616 002-05

REPAIR/REPLACEMENT OF COKE OVEN BATTERIES

VALUE: \$

100 million

Sponsor	Stelco Inc.
Class - Type	29 - Steel Mill
Location	Ontario - Hamilton
Description	Major repair or replacement of No. 3, 4 and 5 coke oven batteries at the Hilton works. Longevity of existing coke ovens will be determined by regular inspection. The project is in the planning stages at present.
Status	Possible
Timing	Start - 1992 Completion -- 1995
Major Equipment	Components for coke oven batteries.
Contact	S.Y. Shiraishi, Hamilton, (416) 528-2511 S29-03

SMELTER IMPROVEMENT	
	VALUE: \$ 100 million
Sponsor	INCO Limited
Class - Type	29 - Nickel Smelting
Location	Ontario - Sudbury
Description	Major modifications, replacement and/or addition to the Copper Cliff smelter and related facilities to reduce emission levels and improve smelting efficiency. Related research and engineering studies are continuing through 1985.
Status	Engineering under way
Timing	Start - Late 80's Completion - Early 90's
Major Equipment	Heavy materials handling equipment Furnaces Ducting of gases Acid recovery equipment
Contact	M.D. Sopko, Copper Cliff, (705) 682-5224 J07-01

TORONTO SUBWAY CARS	
VALUE: \$ 171 million	
Sponsor	Toronto Transit Commission
Class - Type	45 - Urban Transportation
Location	Ontario - Metro Toronto
Description	Supply of 126 subway cars the manufacturing of which is already in progress.
Participants	Province of Ontario (75%) Metropolitan Toronto (25%)
Status	Under construction/Under way
Timing	Start - 1981 Completion - 1987
Major Equipment	Subway cars: \$171 million
Contractors	Urban Transportation Development Corporation
Employment	Permanent: 22 employees
Contact	S.T. Lawrence, Toronto, (416) 481-4252, Ext. 1207 T08-04

BÉCANCOUR ALUMINUM SMELTER	
VALUE: \$ 1,300 million	
Sponsor	Aluminerie de Bécancour Inc.
Class - Type	29 - Aluminum Smelter
Location	Quebec - Bécancour
Description	Construction of an aluminum smelter and foundry.
Facilities	Conveyor Paste plant for anodes Carbon electrode plant Electrical substation Silos Foundry
Participants	Péchiney Québec, Inc. (50.1%) Alumax Québec, Inc. (24.95%) Albecour, Société en commandite (24.95%)
Status	Under construction/Under way
Timing	Start - June 1985 Completion - June 1986
Major Equipment	Electrolysis pots Heated transfer system Mixers Computer controls
Contractors	Lavalin Inc. - Prime contractor
Employment	Construction: 2,500 person years Permanent: 850 employees
Contact	R. Bonfils, Montreal, (514) 282-2057 A18-01

CANADAIR WATER BOMBER PROJECT

VALUE: \$ 147 million

Sponsor	Transport Canada
Class - Type	80 - Government
Location	Quebec - Dorval
Description	Construction of seventeen CL-215 water bombers for the Federal Government and a further 12 water bombers for various provincial governments.
Participants	The Federal Government and the provinces of Alberta, Saskatchewan, Manitoba, Ontario, Quebec, Newfoundland, the Yukon and the Northwest Territories.
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1987
Employment	Permanent: 600 employees
Contact	D.E. Lamont, Ottawa, (613) 998-3316 2-T02-02

CANMET HYDROCRACKER PROJECT	
VALUE: \$ 117 million	
Sponsor	Petro-Canada Products
Class - Type	07 - Heavy Oil Upgrading
Location	Quebec - Montreal
Description	Construction of a 5,000 barrel per day demonstration unit for upgrading refinery residuals and heavy oils.
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1985
Major Equipment	High temperature, high pressure vessels Process and materials handling equipment
Contractors	Partec-Lavalin
Employment	Construction: 375 person years Permanent: 25 employees
Contact	K. Bandirk, Toronto, (416) 445-9113 P04-12

CASCADES - RE-OPENING OF I.T.T. MILL

VALUE: \$ 100 million

Sponsor	Cascades Inc.
Class - Type	27 - Pulp Mill
Location	Quebec - Port Cartier
Description	A project to modify and re-start the existing mill to produce 100,000 tonnes per year of "fluff" pulp.
Status	Possible
Timing	Start - 1985 Completion - 1986
Major Equipment	Paper machine Refiners Piping Electrical components Anti-pollution equipment
Employment	Permanent: 300 employees
Contact	B. Lemaire, Kingsey Falls, (819) 363-2245 C43-01

DELANEY HYDRO PROJECT	
	VALUE: \$ * million
Sponsor	Hydro-Quebec
Class - Type	49 - Hydroelectric Generation
Location	Quebec - St. Raymond de Portneuf
Description	Installation of a pump-turbine station for peak load service. The previous inventory had this project listed as a 2,550 MW station costing *\$961 million (1982) but peak service capacity needs are under review. The planning studies are expected to have a major effect on the size and timing of this project.
Status	Possible
Timing	Start - 1990 Completion - 2000
Major Equipment	Pumps Hydraulic turbine generator Electrical and mechanical equipment
Contact	G. Blanchette, Montreal, (514) 289-5043 H13-07

EXPANSION OF MANIC 5

VALUE: \$ 200 million

Sponsor	Hydro-Quebec
Class - Type	49 - Electrical Power Generation
Location	Quebec - Manicouagan River 150 km north of Baie Comeau
Description	Restart in 1986 of work suspended earlier on expansion of the hydroelectric power plant in order to add 980 MW to Manic 5. Major equipment is now under construction. Installation work will be in full swing in 1986.
Status	Under construction/Under way
Timing	Start - 1986 Completion - 1989
Major Equipment	Hydraulic turbine generator Electrical and mechanical equipment
Employment	Construction: 1,200 person years
Contact	J. Tétreault, Montreal, (514) 289-6585 H13-09

EXTENSION MONTREAL TRANSIT SYSTEM, LINE #2	
VALUE: \$ 133 million	
Sponsor	Montreal Urban Community
Class - Type	45 - Urban Transportation
Location	Quebec - Montreal
Description	Extension of Line #2 heading northwest (0.9 km) below Victoria Street and D�scarie Boulevard from du Coll�ge Street to C�te Vertu Road in Saint-Laurent. Since January 1984 Line #2 is operating from Plamondon Street to du Coll�ge Street.
Status	Under construction/Under way
Timing	Start - 1978 Completion - 1985
Contact	J.H. Ostiguy, Montreal, (514) 872-6860 M02-05

EXTENSION MONTREAL TRANSIT SYSTEM, LINE #3

VALUE: \$

267 million

Sponsor	Montreal Urban Community
Class - Type	45 - Urban Transportation
Location	Quebec - Montreal
Description	Modernization of Line #3 from Central Station going northwest via Montreal Island (27.5 km).
Status	Possible
Timing	Start - 1988 Completion - 1993
Contact	J.H. Ostiguy, Montreal, (514) 872-6860 M02-03

EXTENSION MONTREAL TRANSIT SYSTEM, LINE #5, PHASE I	
VALUE: \$ 320 million	
Sponsor	Montreal Urban Community
Class - Type	45 - Urban Transportation
Location	Quebec - Montreal
Description	Construction of Line #5 from Snowdon Station in the west and going east up to Jean-Talon Street and Saint-Michel Boulevard (9.7 km).
Status	Under construction/Under way
Timing	Start - 1978 Completion - 1986
Contact	J.H. Ostiguy, Montreal, (514) 872-6860 M02-01

EXTENSION MONTREAL TRANSIT SYSTEM, LINE #5, PHASE II

VALUE: \$ 145 million

Sponsor	Montreal Urban Community
Class - Type	45 - Urban Transportation
Location	Quebec - Montreal
Description	Extension of Line #5 from Jean-Talon Street station to Saint-Léonard and Anjou (5.4 km).
Status	Possible
Timing	Start - 1986 Completion - 1992
Contact	J.H. Ostiguy, Montreal, (514) 872-6860 M02-04

EXTENSION MONTREAL TRANSIT SYSTEM, LINE #7	
VALUE: \$ 398 million	
Sponsor	Montreal Urban Community
Class - Type	45 - Urban Transportation
Location	Quebec - Montreal
Description	Construction of Line #7 along Pie IX Boulevard first north, then east (11.7 km).
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1992
Contact	J.H. Ostiguy, Montreal, (514) 872-6860 M02-06

JAMES BAY, LA GRANDE LG2 EXPANSION	
VALUE: \$ 700 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Hydroelectric Generation
Location	Quebec - James Bay, on the La Grande river
Description	Construction of 1,900 MW of additional capacity at the LG-2 site on the La Grande river. Technical studies are under way but a detailed development plan has not been completed.
Status	Engineering under way
Timing	Start - 1987 Completion - 1994
Major Equipment	Hydraulic turbine generators and associated electrical and mechanical equipment: \$700 million
Employment	Construction: 38,000 person years
Contact	G. Blanchette, Montreal, (514) 289-5043 H13-03

JAMES BAY, LA GRANDE SEVENTH TRANSMISSION LINE	
VALUE: \$ 650 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Power Transmission
Location	Quebec - James Bay and northwest Quebec
Description	Construction of a 735 kV transmission line to integrate the generating stations in the La Grande Phase II complex. A development plan has been completed.
Facilities	Transmission line, 735 kV: \$550 million Additional station, 735 kV: 100 million
Status	Possible
Timing	Start - 1990 Completion - 1995
Major Equipment	High voltage power transformers Circuit breakers Transmission line equipment
Contact	A. Filteau, Montreal, (514) 289-5033 H13-02

LA CITIÈRE - ADDITION OF GAS TURBINES	
VALUE: \$ 250 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Power Generation
Location	Quebec - Brossard/Laprairie
Description	Addition of gas turbines at the La Citière station. This project is in the planning stage. A decision on its implementation is not imminent and a feasibility study would be required.
Facilities	Gas turbines to add 800 MW of capacity: \$200 million
Status	Possible
Timing	Start - 1992
Major Equipment	Gas turbine generators Station and substation equipment
Contact	G. Blanchette, Montreal, (514) 289-5043 H13-05

LA GRANDE PHASE II	
VALUE: \$ 2,500 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Hydroelectric Generation
Location	Quebec - James Bay, at La Grande, 1,000 km north of Montreal
Description	The construction of three power stations on the La Grande, La Forge and Eastmain rivers. Hydro- electric power plants to be constructed at: LG-1 1,368 MW Brisay 386 MW La Forge 780 MW
Facilities	Hydroelectric installations
Status	Engineering under way
Timing	Start - 1991 Completion - 1998
Major Equipment	Hydro turbine-generators Electrical and mechanical equipment
Employment	Construction: 23,000 person years
Contact	G. Blanchette, Montreal, (514) 289-5043 H13-06

MADAWASKA ELECTRIC POWER LINES AND SWITCHYARD	
VALUE: \$ 176 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electrical Power Distribution
Location	Quebec - Madawaska
Description	Construction of a 315 kV AC line, a switchyard and and AC-DC-AC converter station at Madawaska to provide electric power connection with New Brunswick. The transmission line will run 90 km from Rivière-du-Loup to Madawaska where the frequency will be changed to 345 kV AC for onward transmission to the New Brunswick Power Commission.
Facilities	Power line: \$92 million Switchyard: 84 million
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1985
Major Equipment	Power transformers Protection equipment Substation and transmission line equipment AC-DC-AC converter
Contact	M. Lebeuf, Montreal, (514) 289-5025 H13-18

MAJOR RECONSTRUCTION OF LES CEDRES GENERATING STATION					
VALUE: \$ 100 million					
Sponsor	Hydro-Quebec				
Class - Type	49 - Electric Generation				
Location	Quebec - 5 km from Valleyfield				
Description	Overhaul of the generating station at Les Cèdres by replacing the turbine runners, rewinding the alternators and replacing the interior transformer station with an exterior station. Feasibility and technical studies have been completed but a detailed development plan has yet to be prepared.				
Facilities	<table> <tr> <td>Main station (reconstruction), 180 MW:</td><td>\$85 million</td></tr> <tr> <td>Transformer station (reconstruction):</td><td>15 million</td></tr> </table>	Main station (reconstruction), 180 MW:	\$85 million	Transformer station (reconstruction):	15 million
Main station (reconstruction), 180 MW:	\$85 million				
Transformer station (reconstruction):	15 million				
Status	Possible				
Timing	Start - 1987 Completion - 1992				
Contact	J. Beaupré, Montreal, (514) 289-5027 H13-12				

MERCIER - ADDITION OF 60 MW CAPACITY AND TRANSMISSION LINE

VALUE: \$ 109 million

Sponsor	Hydro-Quebec
Class - Type	49 - Hydroelectric Generation and Transmission
Location	Quebec - 15 km north of the village of Grand-Remous
Description	Addition of a 60 MW hydro turbine generator to an existing dam and construction of a 120 kV transmission line from Mercier to Maniwaki.
Status	Engineering under way
Timing	Start - 1988 Completion - 1991
Major Equipment	Turbine generator, 60 MW: \$ 90 million Static frequency converter, 60 MW: 9 million 40 km, AC transmission line, 120 kV: 10 million Substation:
Contact	J. Beaupré, Montreal, (514) 289-5027 H13-13

MONTREAL MAINTENANCE CENTRE VIA RAIL	
VALUE: \$ 139 million	
Sponsor	VIA Rail Canada Inc.
Class - Type	45 - Railway Transportation
Location	Quebec - Pointe St-Charles, Municipality of Montreal
Description	Construction on a 75 acre site of maintenance and repair facilities, a major overhaul facility, offices, a supply centre and a wheel repair shop incorporated in a railway sorting yard with a loop track.
Facilities	Principal structures: \$33.0 million Wheel shop: 4.0 million Supply centre: 1.5 million Fuel depot: 0.7 million Site and rail lines: 21.7 million
Status	Under construction/Under way
Timing	Start - Summer 1984 Completion - Spring 1988
Major Equipment	Rail, crossovers and accessories: \$7.7 million Ventilation systems: 1.9 million Transformers: 1.6 million Wheel turning machine: 1.0 million Wheel removal system: 0.8 million Hoisting platforms, 50 & 100 tons: 0.6 million
Contractors	Franki Whiting Equipment Canada Inc. Simmons-Stanray
Employment	Construction: 300 person years Permanent: 554 employees
Contact	K.J. Morrison, Montreal, (514) 286-2894 V07-04

NEPOOL ELECTRIC POWER LINE AND SWITCHYARD	
VALUE: \$ 300 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Transmission
Location	Quebec - Eastern townships near Sherbrooke
Description	Construction of a transmission line, AC-DC converter and switchyard to provide electric power connection with the New England Pool (NEPOOL).
Facilities	DC transmission line, 450 kV
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1986
Major Equipment	AC-DC power conversion equipment Substation equipment
Contact	A. Penelle, Montreal, (514) 289-5724 H13-10

NICOLET AC-DC CONVERTER STATION	
VALUE: \$ 120 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Generation
Location	Quebec - Nicolet near Trois Rivières on the south shore of the St. Lawrence
Description	Construction of a new facility to convert alternating current (AC) to 2,000 MW direct current (DC) output at the Nicolet generating station.
Status	Engineering under way
Timing	Start - 1990 Completion - 1992
Major Equipment	AC/DC conversion equipment with rectifier transformers and circuit breakers: \$120 million
Contact	Y. Bourget, Montreal, (514) 289-5033 H13-15

PAPER MACHINE MODERNIZATION PROGRAM	
VALUE: \$ 111 million	
Sponsor	Reed Inc.
Class - Type	27 - Newsprint Mill
Location	Quebec - Quebec City
Description	Modernize four paper machines to improve sheet quality and to increase salable newsprint production by 200 tonnes/day. Two of four phases have been completed.
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Major Equipment	Install top wires and rebuild press sections: \$97 million Replace drives: 14 million
Contractors	Comstock International - Installation & services B.G. Checo - Installation & services Dominion Engineering - Equipment Beloit Canada - Equipment Reliance - Equipment Voith - Equipment
Employment	Construction: 400 person years
Contact	P. Lawson, Toronto, (416) 862-5103 R09-01

QUEBEC MILLS MODERNIZATION AND EXPANSION	
VALUE: \$ 400 million	
Sponsor	Consolidated-Bathurst Inc.
Class - Type	27 - Newsprint Mill
Location	Quebec - Port Alfred, Grand'Mère, Shawinigan, Trois Rivières
Description	Modernization, expansion, environmental protection and energy conservation programs for each mill. The project has been under way for some time. A number of sub-projects are already completed.
Status	Under construction/Under way
Timing	Start - 1979 Completion - 1987
Major Equipment	Presses Pulpers Pumps & motors Dynaformer Gear drivers Driers Tanks, compressors and conveyors
Contact	T.R. Cochran, Montreal, (514) 875-2160 C27-01

QUEBEC NATURAL GAS DISTRIBUTION NETWORK VALUE: \$ 393 million	
Sponsor	Gas Inter-Cité Québec Inc.
Class - Type	46 - Natural Gas Distribution
Location	Quebec - Distribution in the Mauricie, Quebec Estrie and Saguenay regions of the province.
Description	Extension of the Quebec natural gas distribution system through construction of new steel and plastic pipelines. The project includes the hook-up of consumers to the system.
Participants	Inter City Gas (49%) SOQUIP (49%) Caisse de dépôt et de placement (2%)
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1989
Major Equipment	Line pipe (steel and plastic) Regulators Meters Communication system
Contractors	Construction St-Laurent Limitée Antagon/Banister Co. Entreprise Construction Vanneau Construction Bau-Val Massicotte et Fils Norgaz et Sogaz
Employment	Construction: 7,100 person years Permanent: 300 employees
Contact	Y. Pichette, Ste-Foy, (418) 659-5111 G02-01

QUEBEC NATURAL GAS PIPELINE LATERALS	
VALUE: \$ 474 million	
Sponsor	Gaz Inter-Cité Québec Inc.
Class - Type	46 - Natural Gas Pipeline
Location	Quebec - Drummondville and other unspecified districts of the province
Description	Construction of laterals from main TQM line to different areas of Quebec. In 1988 service will be extended to Drummondville.
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1988
Major Equipment	Line pipe Metering stations Compression stations
Contractors	Les Constructions St. Laurent Limitée Antagon/Banister Co. Entreprise Majestic, Duranceau, Legault
Employment	Construction: 7,400 person years
Contact	S.G. Morin, Ste-Foy, (418) 659-5111 G02-02

RADISSON/NICOLET/DES CANTONS TRANSMISSION LINE	
VALUE: \$ 700 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Transmission Line
Location	Quebec - James Bay and northwest Quebec
Description	Construction of a 450 kV (DC) power transmission line from Radisson station at the James Bay complex to the Nicolet and Des Cantons stations on the south shore of the St. Lawrence. A conversion station will be built at Radisson. Planning continues and timing of construction has not been decided upon as yet.
Facilities	Transmission line, 450 kV: \$500 million Converter station: 200 million
Status	Engineering under way
Major Equipment	Rectifiers Rectifier transformers Circuit breakers Substation equipment
Contact	J.P. Rémillard, Montreal, (514) 289-6566 H13-14

REXFOR - RE-OPENING OF I.T.T. MILL

VALUE: \$ 283 million

Sponsor	Rexfor
Class - Type	27 - Supercalendered Paper Mill
Location	Quebec - Port Cartier
Description	A project to modify an existing mill to produce 190,000 tonnes per year of supercalendered paper for offset and rotogravure printing.
Facilities	New pulping unit: \$ 36 million New paper machine: 132 million
Status	Possible
Timing	Start - 1985 Completion - 1987
Employment	Permanent: 470 employees
Contact	M. Duchesneau, Ste. Foy, (418) 659-4530 R08-02

REYNOLDS ALUMINUM SMELTER EXPANSION

VALUE: \$ 500 million

Sponsor	Canadian Reynolds Metals Co.
Class - Type	29 - Aluminum Smelter
Location	Quebec - Baie Comeau
Description	Expansion of the primary smelter to increase capacity from 175,000 tons per year to 300,000 tons per year. Construction is almost completed and the smelter expansion is in partial operation.
Facilities	One potline with supporting facilities
Status	Under construction/Under way
Timing	Start - 1982 Completion - August 1985
Contractors	S.N.C.
Employment	Permanent: 450 employees
Contact	H.W. Hendley, Baie Comeau, (418) 296-2441 C24-01

ROBERTSON LAKE HYDRO	
VALUE: \$ 100 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Hydroelectric Generation
Location	Quebec - La Tabatière, 600 km east of Sept Iles
Description	Replacement of diesel generators with a small hydroelectric facility to serve the villages of La Tabatière, Saint-Augustin and Blanc Sablon. Construction is approved and public hearings are under way to get second stage government approvals.
Facilities	Dam Substation Generator
Status	Engineering under way
Timing	Start - 1985 Completion - 1988
Major Equipment	Substation and hydraulic turbine generator, 21 MW: \$ 65 million Transmission network: 35 million
Employment	Construction: 400 person years Permanent: 18 employees
Contact	P. Grémaux, Montreal, (514) 289-5156 H13-04

TEMBEK - RE-OPENING OF I.T.T. MILL

VALUE: \$

100 million

Sponsor	Tembec Inc.
Class - Type	27 - Pulp Mill
Location	Quebec - Port Cartier
Description	Renovation and start up of existing mill to produce 180,000 tonnes per year of pulp.
Status	Possible
Timing	Start - 1986 Completion - 1987
Employment	Construction: 200 person years Permanent: 600 employees
Contact	A.H. Riviere, Témiscaming, (819) 627-3321 T12-02

TEMCELL BCTMP PULP MILL	
VALUE: \$ 103 million	
Sponsor	Tembec Inc.
Class - Type	27 - Pulp Mill
Location	Quebec - Témiscaming
Description	Construction of a 300 tonnes per day bleached chemi-thermo-mechanical pulp mill to produce a variety of soft and hardwood pulp grades suitable for use in manufacture of tissues, towels paperboard and disposable paper products.
Facilities	Pulp mill, 90,000 metric tonnes/year: \$103.3 million Housing, 20-30 units (not incl.): 2.0 million Wood handling & supply (not incl.): 5.0 million
Participants	Tembec (45%) Others (55%)
Status	Under construction/Under way
Timing	Start - Dec. 1984 Completion - Jul. 1986
Major Equipment	Pulp and paper equipment, refiners, presses: \$ 22 million Electrical transformers and switchgear: 5 million Structural steel and cladding material: 3 million
Contractors	L.P. Pilon - Mechanical & electrical engineering Marshall Steel - Buildings and civil engineering
Employment	Construction: 500 person years Permanent: 50 employees
Contact	D. Deer, Témiscaming, (819) 627-3321

T12-04

UNDERWATER ELECTRIC CABLE TO ILES-DE-LA-MADELEINE	
VALUE: \$ 150 million	
Sponsor	Hydro-Quebec
Class - Type	49 - Electric Power Transmission
Location	Quebec - Chandler to Cap-aux-Meules
Description	Installation of two AC/DC conversion stations and two underwater cables between the Gaspé peninsula and the Iles-de-la-Madeleine.
Facilities	Chandler conversion station, 100 MW: \$ 20 million Cap-aux-Meules conversion station, 100 MW: 20 million Submarine cable: 110 million
Status	Engineering under way
Timing	Start - 1988 Completion - 1989
Major Equipment	2 submarine cables, 250 km (each): \$30 million 4 power transformers, 60 MVA (each): 6 million 2 synchronous compensators, 50 MVA (each): 8 million 4 conversion bridges, 50 MVA (each): 12 million
Contact	M. Lebeuf, Montreal, (514) 289-5025 H13-16

WINDSOR MILL REHABILITATION

VALUE: \$ 833 million

Sponsor	Domtar Inc.
Class - Type	27 - Paper Mill
Location	Quebec - Windsor
Description	Rehabilitation of a fine paper mill, including a new pulp mill, two fine paper machines and related environmental protection equipment. Initial start up is planned for 1987. The facilities should be in full production by 1989.
Status	Engineering under way
Timing	Start - 1985 Completion - 1989
Employment	Construction: 10,000 person years Permanent: 650 employees
Contact	R. Buser, Montreal, (514) 848-5173 D09-04

ACADIA COATED PAPER PROJECT	
VALUE: \$ 230 million	
Sponsor	Repap Enterprises Inc.
Class - Type	27 - Coated Paper Mill
Location	New Brunswick - Newcastle
Description	Construction of a world scale, 200,000 tonnes per year coated paper facility and integration of the Newcastle kraft pulp mill and the Chatham groundwood pulp mill. Construction is approved.
Facilities	Building and site preparation: \$20 million
Status	Engineering under way
Timing	Start - April 1985 Completion - July 1986
Major Equipment	Base stock paper machine: \$80 million Off machine coater: 30 million Supercalenders (2): 20 million Roll finishing: 15 million
Contractors	Lummus Canada - Prime contractor Valmet Dominion - Paper machine
Employment	Construction: 3,800 person years Permanent: 150 employees
Contact	A.J. Dundas, Montreal, (514) 879-1316 R11-01

BATHURST PULP MILL MODERNIZATION	
VALUE: \$ 200 million	
Sponsor	Consolidated-Bathurst Inc.
Class - Type	27 - Pulp Mill
Location	New Brunswick - Bathurst
Description	Installation of chemical-thermo-mechanical pulp mill (capacity 400 tonnes per day) and corrugating medium paper machine (capacity 350 tonnes per day).
Status	Under construction/Under way
Timing	Start - 1981 Completion - 1988
Major Equipment	Fibrolators and motors Conveyors Filtration discs Pumps Driers
Employment	Permanent: 505 employees
Contact	T.R. Cochran, Montreal, (514) 875-2160 C27-02

COLESON COVE	
VALUE: \$ 240 million	
Sponsor	New Brunswick Electric Power Commission
Class - Type	49 - Power Generation Station
Location	New Brunswick - Coleson Cove
Description	Conversion of a 3 unit, 1,000 MW oil fired thermal generating station to coal firing with a 750 MW rating.
Facilities	New coal and ash handling facility Marine facility to receive coal
Status	Engineering under way
Employment	Construction: 3,000 person years Permanent: 20-40 employees
Contact	R.E. Haggerty, Fredericton, (506) 453-4302 N09-03

GRAND LAKE THERMAL UNIT #9	
VALUE: \$ 254 million	
Sponsor	New Brunswick Electric Power Commission
Class - Type	49 - Power Generation
Location	New Brunswick - 10 km east of Minto
Description	Construction of a 200 MW coal fired thermal generating station. Exact project timing, location and output are to be determined later depending on the future of the Point Lepreau II generating station project.
Status	Possible
Timing	Start - 1988 Completion - 1994
Major Equipment	Power boiler Turbine generator, 200 MW Electrical and mechanical equipment
Employment	Construction: 925 person years Permanent: 40 employees
Contact	D.G. Hayward, Fredericton, (506) 453-4246 N09-01

NEW BRUNSWICK POTASH PROJECT	
VALUE: \$ 350 million	
Sponsor	Denison-Potacan Potash Co.
Class - Type	62 - Potash Mine
Location	New Brunswick - Near Sussex
Description	Construction of a 1.3 million tonnes per year potash mine.
Facilities	Rail link to Saint John harbour Storage at Saint John harbour
Participants	Denison Mines Ltd. (60%) Potash Company of Canada Ltd. (40%)
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1986
Contractors	Kilborn Ltd. - Engineering, procurement and construction
Employment	Construction: 800 person years Permanent: 300 employees
Contact	A.J. Kyle, Sussex, (506) 839-2146 D05-01

POINT LEFNEAU NUCLEAR STATION UNIT #2	
VALUE: \$ 1,400 million	
Sponsor	New Brunswick Electric Power Commission
Class - Type	49 - Nuclear Power Generation
Location	New Brunswick - 48 km west of Saint John
Description	Construction of a 630 MW nuclear generating station. Firm contracts for power are needed before the project could go from technical study to a detailed development plan.
Facilities	Power house and equipment
Status	Possible
Major Equipment	Nuclear turbine generator, 630 MW Electrical and mechanical equipment Nuclear reactor
Employment	Construction: 5,400 person years (peak) Permanent: 120 employees
Contact	D.G. Hayward, Fredericton, (506) 453-4246 NO9-04

DONKIN-MORISE MINE	
VALUE: \$ 241 million	
Sponsor	Cape Breton Development Corporation
Class - Type	63 - Coal Mine
Location	Nova Scotia - 20 km from Glace Bay
Description	Development of a coal mine to produce 1 million tons of coal per annum. The project will include two 3.5 km tunnels, installation of underground equipment and the provision of surface facilities for coal handling.
Facilities	Underground development & equipment: \$88.5 million Surface facilities and offsite railway: 54.5 million Site work and tunnel driveage: 90.5 million
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Major Equipment	Tunnel boring machine: \$10 million Trucks: 2 million
Contractors	Beaver Underground Structures Walker Mining & Tunnelling Ltd.
Employment	Construction: 500 person years Permanent: 270 employees
Contact	J.C. Marsh, Sydney, (902) 564-3715 C23-01

EAST KEMPTVILLE TIN MINE	
VALUE: \$ 170 million	
Sponsor	Rio Algom Limited
Class - Type	61 - Tin Mine
Location	Nova Scotia - Yarmouth
Description	Construction of an open pit tin mine with ore processing, administration and ancillary facilities.
Facilities	Milling: \$52 million General plant: 14 million
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1985
Major Equipment	Reichert cones: \$0.8 million Grinding mills: 2.0 million Control system: 0.7 million
Contractors	Commonwealth Construction - Mechanical, electrical and instrumentation Northern Construction - Concrete John T. Hepburn - Structural steel Robertson Building - Siding and decking
Employment	Construction: 300 person years Permanent: 255 employees
Contact	D.J. Rudack, Toronto, (416) 367-4000 R07-03

EAST SABLE EXPLORATION AGREEMENT	
VALUE: \$ 100 million	
Sponsor	Dome Petroleum Limited
Class - Type	09 - Oil and Gas Exploration
Location	Nova Scotia - Offshore on the Scotian Shelf, East Sable and Northumberland Block
Description	A program to drill one well with an option to drill two additional wells. Home Oil has taken over as operator from Dome and opted to drill a second well. The program will be finished once the second well is completed.
Participants	Home Oil (operator)
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1985
Major Equipment	Jack-up drill rig (Glomar Labrador I) Two supply boats
Employment	Permanent: 60 employees
Contact	R. Argument, Halifax, (902) 421-1551 D03-08

FUNDY BAY TIDAL POWER PROJECT - CUMBERLAND BASIN	
VALUE: \$ 3,000 million	
Sponsor	Tidal Power Corporation
Class - Type	49 - Electrical Power Generation
Location	Nova Scotia - Cumberland Basin, 20 km from Amherst
Description	Construction of a 1,428 MW tidal power plant. The timing of this project is the subject of much speculation. It may be possible to start it after 1990 but more likely it would not be started until after the year 2000.
Facilities	Power plant Barrage of 2.5 km Transmission lines
Status	Possible
Timing	Start - 1990 Completion - 1997 (est.)
Major Equipment	42 horizontal hydraulic turbine generator sets, each rated at 34 MW Electrical and mechanical equipment
Contact	G.C. Baker, Halifax, (902) 423-8467 T13-02

FUNDY BAY TIDAL POWER PROJECT - MINAS BASIN

VALUE: \$ 7,451 million

Sponsor	Tidal Power Corporation
Class - Type	49 - Electrical Power Generation
Location	Nova Scotia - Minas Basin, 50 km from Truro
Description	Construction of a single-basin, single-effect tidal power plant with an installed capacity of 4,400 MW and an annual output of approximately 12,000 GWh.
Facilities	Power plant Barrage length of 8 km from Economy Point to Cape Tenny Transmission lines
Status	Possible
Timing	Start - 1992 Completion - 2002
Major Equipment	106 to 128 horizontal hydraulic turbine generator sets, each rated at 41.5 MW Electrical and mechanical equipment
Contact	G.C. Baker, Halifax, (902) 423-8467 T13-01

LINGAN PHALEN MINE	
VALUE: \$ 184 million	
Sponsor	Cape Breton Development Corporation
Class - Type	63 - Coal Mine
Location	Nova Scotia - Near New Waterford, Cape Breton County
Description	Development of a 1.5 million tonnes per year underground mine and related facilities.
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1987
Major Equipment	Longwall mining equipment: \$25.4 million
	Development drilage machine: 12.0 million
	Coal transport and sizing: 19.0 million
Employment	Construction: 2,000 person years
	Permanent: 900 employees
Contact	D. Merner, Sydney, (902) 564-2840 C23-03

POINT TUPPER GENERATING UNIT #3	
VALUE: \$ 360 million	
Sponsor	Nova Scotia Power Corporation
Class - Type	49 - Power Generation
Location	Nova Scotia - Point Tupper
Description	Installation of a 300 MW coal fired generating unit.
Facilities	Buildings/structures: \$ 80 million Boiler plant: 123 million Turbine plant: 80 million Electrical plant: 22 million
Status	Possible
Timing	Start - 1985 Completion - 1991
Major Equipment	Coal fired boiler, 300 MW Steam turbine generator set Electrical and mechanical equipment
Employment	Construction: 2,200 person years Permanent: 100 employees
Contact	M.W. MacAlpine, Halifax, (902) 424-2919 N10-03

POINT TUPPER GENERATING UNIT #4	
VALUE: \$ 357 million	
Sponsor	Nova Scotia Power Corporation
Class - Type	49 - Thermal Power Plant
Location	Nova Scotia - Point Tupper
Description	Installation of a 300 MW coal fired station.
Facilities	Boiler plant: \$112 million Turbine plant: 80 million Building and structure: 54 million Electrical plant: 19 million
Status	Engineering under way
Timing	Start - 1987 Completion - 1993
Major Equipment	Coal fired boiler, 300 MW Steam turbine generator set Electrical and mechanical equipment
Employment	Construction: 2,200 person years Permanent: 50 employees
Contact	M.W. MacAlpine, Halifax, (902) 424-2919 N10-04

SCOTIA COAL SYNFUELS PROJECT	
VALUE: \$ 700 million	
Sponsor	Alastair Gillespie & Associates
Class - Type	36 - Coal Liquefaction
Location	Nova Scotia - Point Tupper or Sydney or across the Strait of Canso from Port Hawkesbury
Description	Construction of a facility to convert coal to synthetic crude which could be used in existing eastern Canadian refineries. The project's value could be between \$700 million and \$1.5 billion. The consortium is currently carrying out technical and economic feasibility studies.
Facilities	Coal preparation Coal liquefaction Coal liquid treatment & recovery Hydrogen production Hydrotreatment, 10,000 to 30,000 bbl/d Emission control Waste water treatment Coal transportation and unloading (barge/rail) Steam and power generation
Participants	Cape Breton Development Corp. (19½X) Petro-Canada (19½X) Nova, An Alberta Corp. (19½X) Gulf Canada (19½X) Nova Scotia Resources Ltd. (19½X) Alastair Gillespie & Associates (2½X)
Status	Possible
Employment	Construction: 12,500 person years Permanent: 750 employees (plant) 1,000 - 1,500 employees (mine)
Contact	E.J. Mako, Markham, (416) 474-1265 A24-01

SCOTIAN SHELF EXPLORATION, PROGRAM 2	
VALUE: \$ 551 million	
Sponsor	Shell Canada Ltd.
Class - Type	09 - Oil and Gas Exploration
Location	Nova Scotia - Offshore
Description	Completion of 7 exploration agreements, each with 3 year terms, covering a geophysical program of 6,000 km and a drilling program of 9 exploration wells.
Participants	Shell Canada Resources Ltd. (25%) Shell Explorer (12.5%) Petro-Canada Exploration Inc. (45%) Canterra Energy (15%)
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Major Equipment	Leasing of one offshore drilling rig, 2 supply boats and other equipment.
Employment	475 persons for the term of the program
Contact	C.A. Bonke, Calgary, (403) 232-3111 S06-07

SCOTIAN SLOPE EXPLORATION	
VALUE: \$ 188 million	
Sponsor	Shell Canada Ltd.
Class - Type	09 - Oil and Gas Exploration
Location	Nova Scotia - on the Scotian slope
Description	Six exploration agreements of either 4 or 6 year terms covering the drilling of 6 exploration wells.
Participants	Shell Canada Resources Ltd. (50%) Shell Explorer (25%) Canterra Energy (25%)
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1987
Major Equipment	Drilling rig: \$116 million Supply vessels: 12 million Helicopters: 6 million Materials and consumables: 54 million Leasing one offshore drilling rig, supply vessels and other equipment as may be required.
Contractors	Southeastern Commonwealth Drilling Co. - Semi-submersible drilling vessel Balder Offshore Ltd., Secunda Marine Ltd., Seaspan International and SGA Base Ltd. - Supply vessels
Employment	Permanent: 245 employees
Contact	C.A. Bonke, Calgary, (403) 232-3111 S06-08

VENTURE GAS DEVELOPMENT									
VALUE: \$ 2,480 million									
Sponsor	Mobil Oil Canada Ltd.								
Class - Type	07 - Offshore Gas Development								
Location	Nova Scotia - 210 km offshore, near Sable Island								
Description	Development of offshore gas production facilities, and construction of a subsea pipeline to shore and an onshore gas plant. Production of 365 million cubic feet per day is targetted.								
Facilities	<table> <tr> <td>Platforms:</td><td>\$695 million</td></tr> <tr> <td>Production facilities and wells:</td><td>845 million</td></tr> <tr> <td>Subsea pipeline:</td><td>635 million</td></tr> <tr> <td>Onshore facilities:</td><td>305 million</td></tr> </table>	Platforms:	\$695 million	Production facilities and wells:	845 million	Subsea pipeline:	635 million	Onshore facilities:	305 million
Platforms:	\$695 million								
Production facilities and wells:	845 million								
Subsea pipeline:	635 million								
Onshore facilities:	305 million								
Participants	Mobil Oil Canada Ltd. (42%) Petro-Canada Inc. (30%) Texaco Canada Ltd. (18%) Nova Scotia Resources Ltd. (10%)								
Status	Engineering under way								
Timing	Start - 1987 Completion - 1991								
Contractors	Fluor Canada/SNC/Whitman-Ben - Project services contractor								
Employment	Construction: 12,000 person years Permanent: 500 employees								
Contact	H.S. Aitkin, Halifax, (902) 421-2800 M03-02								

BP RESOURCES - OFFSHORE NEWFOUNDLAND	
VALUE: \$ 265 million	
Sponsor	BP Resources Canada Limited
Class - Type	09 - Oil and Gas Exploration
Location	Newfoundland - offshore
Description	A single well drilling program which is scheduled to end in 1986. Depending on the results of current drilling, and proposals being considered by the Energy Minister, the drilling program may be extended to 1988 with additional wells.
Participants	BP Resources Canada Limited Chevron Petro-Canada
Status	Engineering under way
Timing	Start - 1985 Completion - 1986
Major Equipment	Drilling rig Support vessels
Employment	Construction: 400 person years
Contact	W.A. Cunningham, Calgary, (403) 237-1189 B08-01

GRAND BANKS OIL DEVELOPMENT PROJECT	
VALUE: \$ 2,000 million	
Sponsor	Petro-Canada Resources
Class - Type	07 - Offshore Oil Development
Location	Newfoundland - 350 km from St. John's on the Grand Banks
Description	An offshore oil development project using a floating production system. The design production rate will be in the range of 60,000 barrels per day. Decisions to proceed and timing of the development will be determined by the results of future exploration and delineation drilling.
Facilities	Oil processing and re-injection facilities Accommodations Offloading facilities and tankers
Status	Possible
Timing	Start - 1988 Completion - 1991
Major Equipment	Production semi-submersible: \$500 million Subsea tree, manifolds and templates: 250 million Flowlines: 250 million Riser systems: 150 million Tankers: 200 million Drilling/completion: 600 million
Contact	N.F. McIntyre, Calgary, (403) 296-8000 P04-10

HIBERNIA OIL DEVELOPMENT	
VALUE: \$ 3,750 million	
Sponsor	Mobil Oil Canada Ltd.
Class - Type	07 - Offshore Oil Development
Location	Newfoundland - Offshore
Description	Development of an offshore production and transportation system for the Hibernia oilfield. Production rates range from 60 to 150 thousand barrels daily. Construction costs will range between \$2.5 billion and \$5.0 billion depending on the production system and output selected.
Facilities	Drilling and production facilities Subsea equipment Loading platforms Shuttle tankers
Participants	Mobil Oil Canada Ltd. (28%) Gulf Canada Resources Inc. (25%) Petro-Canada Inc. (25%) Chevron Canada Resources Ltd. (16%)
Status	Engineering under way
Timing	Start - 1986 Completion - 1991
Employment	Construction: 5,000 to 24,000* person years Permanent: 1,000 to 1,300* employees * Depending on whether a floating or gravity-based system is selected.
Contact	W. Abel, St. John's, (709) 778-7000 M03-01

HUSKY/BOW VALLEY GRAND BANKS EXPLORATION	
VALUE: \$ 1,040 million	
Sponsor	Husky/Bow Valley East Coast Project
Class - Type	09 - Oil and Gas Exploration
Location	Newfoundland - Offshore
Description	Execution of six exploration agreements covering 1.9 million hectares in the vicinity of the Hibernia, Hebron and Ben Nevis oil discoveries. Drilling of up to 20 wells is contemplated along with the shooting of up to 15,000 km of seismic. A four well, \$300 million work program is planned for 1985 and 1986.
Participants	Husky Oil Operations Ltd. Bow Valley Industries Ltd. Mobil Oil Canada Ltd. Petro-Canada Exploration Inc. Gulf Canada Resources Inc. Norcen Energy Resources Ltd. Parex
Status	Under construction/Under way
Timing	Start - 1983 Completion - 1987
Major Equipment	Offshore oil well drilling rigs Supply boats Helicopter services Various equipment and supplies
Contractors	Bow Valley Offshore Drilling - Drilling rig contractor Sedco Drilling Company - Drilling rig contractor Husky Marine Services - Supply vessel contractor
Employment	Permanent: 560 employees
Contact	L. Prather, St. John's, (709) 722-6209 H05-04

LOWER CHURCHILL PROJECT, PHASE I

VALUE: \$ 3,200 million

Sponsor	Newfoundland and Labrador Hydro
Class - Type	49 - Hydroelectric Generation
Location	Newfoundland - Lower Churchill River, 100 km from Goose Bay, Labrador
Description	Construction of a 1,700 MW hydro power station at Gull Island on the Lower Churchill River including a 400 kV DC transmission line to Newfoundland.
Facilities	Dam Powerhouse HVDC transmission line with terminals
Participants	Newfoundland and Labrador Hydro (51%) Government of Canada (49%)
Status	Possible
Employment	Construction: 9,800 person years (peak) Permanent: 140 employees
Contact	W.S. Read, St. John's, (709) 737-1400 N17-01

LOWER CHURCHILL PROJECT, PHASE II

VALUE: \$ 2,200 million

Sponsor	Newfoundland and Labrador Hydro
Class - Type	49 - Hydroelectric Generation
Location	Newfoundland - Lower Churchill River, 33 km from Goose Bay, Labrador
Description	Construction of a 600 MW hydroelectric power station at Muskrat Falls and a second 400 kV DC transmission line to Newfoundland.
Participants	Newfoundland and Labrador Hydro (51%) Government of Canada (49%)
Status	Possible
Major Equipment	Hydraulic turbine generators Electrical and mechanical equipment DC transmission line equipment
Employment	Construction: 6,500 person years (peak) Permanent: 50 employees
Contact	W.S. Read, St. John's, (709) 737-1400 N17-02

NEWFOUNDLAND OFFSHORE EXPLORATION	
VALUE: \$ 439 million	
Sponsor	Petro-Canada Resources
Class - Type	09 - Exploration Program
Location	Newfoundland - Offshore
Description	Exploration drilling of up to 9 wells and 15,000 km of seismic.
Participants	Petro-Canada Resources Mobil Oil Gulf Canada Resources Canterra Energy Ltd. ICG Resources PAREX Trillium Exploration Corp.
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1987
Major Equipment	Semi-submersible drilling rig Supply boat Helicopter services
Contractors	Offshore Drilling Contractors
Contact	J.L. Evans, Calgary, (403) 296-5595 P04-09

OFFSHORE LABRADOR OIL AND GAS EXPLORATION	
VALUE: \$ 450 million	
Sponsor	Petro-Canada Resources
Class - Type	09 - Oil and Gas Exploration
Location	Newfoundland - Offshore near Labrador
Description	Execution of a five year exploration program off the coast of Labrador. The drilling program is reviewed on an annual basis. There is no drilling planned for the 1985 drilling season.
Participants	Petro-Canada Resources (21.4%) Gulf Canada Resources Inc. (22.9%) Canterra Energy Ltd. (17.1%) Ranchmen's Resources (1976) Ltd. (11.7%) Suncor Inc. (10%) AGIP Canada Inc. (10%) Amerada Minerals Corp. of Canada (6.9%)
Status	Under construction/Under way
Timing	Start - 1982 Completion - 1986
Contact	J.L. Evans, Calgary, (403) 296-5595 P04-18

ADVANCED TRAIN CONTROL SYSTEMS	
VALUE: \$ 10.500 million	
Sponsor	Railway Association of Canada/Association of American Railroads
Class - Type	45 - Rail Transportation
Location	Interprovincial
Description	A (\$7-14 billion) cooperative research project in which 4 Canadian and 7 U.S. railways have invited suppliers to propose means of satisfying their requirements for new train control systems. A consortium of system engineers has been retained to evaluate the technologies and design the basic architecture of the systems.
Participants	Railway Association of Canada (50%) Association of American Railroads (50%)
Status	Engineering under way
Timing	Start - 1986 Completion - 1995
Contact	P.J. Detmold, Montreal, (514) 395-6626 R12-01

ALASKA HIGHWAY GAS PIPELINE, PHASE II	
VALUE: \$ 10,050 million	
Sponsor	Foothills Pipe Lines (Yukon) Ltd.
Class - Type	46 - Natural Gas Pipeline
Location	Interprovincial - From Prudhoe Bay, Alaska along the Alaska Highway to join existing Phase I facilities at Caroline, Alberta.
Description	Construction of a major 2,550 km, natural gas pipeline for delivery of Alaskan gas to U.S. eastern and western markets through linkage to existing pipeline facilities. The first phase facilities were completed in 1982. Phase II timing has yet to be decided.
Facilities	Pipeline, 1,422/1,219/1,067 mm: \$6,000 million 17 compression stations: 736 million
Participants	Nova, An Alberta Corporation (50%) Westcoast Transmission Company Limited (50%)
Status	Possible
Major Equipment	Construction equipment Linepipe Coating and foundation material Valves and fittings Compression & metering equipment (25 units in 17 stations)
Employment	Construction: 30,000 person years Permanent: 300 employees
Contact	H.N.E. Hobbs, Calgary, (403) 294-4111 F04-01

BI-PROVINCIAL PROJECT	
VALUE: \$ 3,700 million	
Sponsor	Husky Oil Operations Ltd.
Class - Type	07 - Heavy Oil Production and Upgrading
Location	Interprovincial - Lloydminster
Description	Construction of an upgrading plant, to be built in Lloydminster, Saskatchewan, to process heavy oil production from the Lloydminster and Cold Lake areas of Alberta and Saskatchewan. Ultimate production capacity will be 8,600 cubic metres per day. The capacity of the upgrader alone will be 7,336 cubic metres per day. Field production facilities will be developed on a continuous basis through to the year 2011 providing an additional 18,765 person years of employment during construction and 2,600 permanent employees.
Facilities	Heavy oil production facilities: \$2,542 million Upgrader complex: 1,200 million
Status	Engineering under way
Timing	Start - 1984 Completion - 1988
Major Equipment	Upgrader complex equipment: \$430 million Production equipment: 640 million
Contractors	Husky Oil Operations Ltd. - Project Manager and operator
Employment	Construction: 4,450 person years (upgrader) Permanent: 300 employees (upgrader)
Contact	M.L. Peterson, Calgary, (403) 298-6111 H02-02

CANADIAN PATROL FRIGATE (CPF) PROJECT

VALUE: \$ 3.200 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Saint John, New Brunswick, Montreal and Sorel, Quebec
Description	Design and construction of six frigates of about 4,200 tons displacement.
Facilities	New combat systems test facility in Montreal (not. incl.): \$25 million
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1992
Contractors	Saint John Shipbuilding Ltd. - Prime contractor Paramax Electronics Inc. - Principal subcontractor responsible for combat systems
Employment	Construction: 30,000 person years
Contact	Saint John Shipbuilding Ltd.: P. Jaquith, Saint John, (506) 632-3232 Paramax: P. Auerbach, Montreal, (514) 335-8310 2-P04-01

CANADIAN SUBMARINE ACQUISITION PROJECT (CASAP)

VALUE: \$ 1,000 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Exact locations not yet established
Description	Construction of from 4 to 12 conventionally powered submarines.
Status	Possible
Timing	Start - 1987 Completion - 1997
Major Equipment	Diesel engines Electric propulsion system Weapons systems
Contact	A. MacWaters, Ottawa, (613) 996-3177 2-P04-09

CF-18 NEW FIGHTER AIRCRAFT

VALUE: \$ 2,369 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Sub-contracts to various regions of Canada
Description	This project involves the acquisition of 138 new fighter aircraft to replace Canada's aging fighter fleets at Cold Lake, Alberta, Bagotville, Quebec, and Baden, West Germany. Industrial benefits will be derived primarily through sub-contracting and offsets. Offsets are available through the prime contractor.
Status	Under construction/Under way
Timing	Start - 1980 Completion - 1988
Contractors	McDonnell Douglas Corp. - Prime contractor J. Caruso, St. Louis, Missouri, (314) 232-4135
Employment	Construction: 65,000 person years
Contact	R. Hawkins, Ottawa, (613) 995-5293 2-P04-02

CN MARINE PASSENGER FERRY I	
	VALUE: \$ 157 million
Sponsor	CN Marine Inc.
Class - Type	45 - Marine Transportation
Location	Interprovincial - Vessel construction in Lévis, Quebec
Description	Construction of a 1,200 passenger roll on/roll off ferry (Gulfspan Class) and associated docks to provide service between Nova Scotia and Newfoundland.
Facilities	Port-aux-Basques dock: \$ 6 million North Sydney dock: 21 million
Status	Under construction/Under way
Timing	Start - Jan. 1983 Completion - Nov. 1985
Major Equipment	Vessel - 15,300 tonnes, 179 metres: \$130 million
Contractors	Davie Shipbuilding Ltd. - Vessel Monenco-Canamont - North Sydney dock Robb Engineering Ltd. - Steel construction for Port-aux-Basques dock L.D. Fahey & Eastcon - concrete for Port-aux-Basques dock
Employment	Construction: 1,600 person years
Contact	R.G.A. Lawrence, Moncton, (506) 858-3770 C40-01

CN MARINE PASSENGER FERRY II

VALUE: \$ 150 million

Sponsor	CN Marine Inc.
Class - Type	45 - Marine Transportation
Location	Interprovincial - Ferry service between Nova Scotia and Newfoundland
Description	A project to further augment the Gulfspan Class Ferry Service between Nova Scotia and Newfoundland. A roll on/roll off passenger ferry of similar characteristics to those outlined in the Passenger Ferry project described on the previous page.
Status	Possible
Timing	Start - 1987 Completion - 1989
Major Equipment	Vessel - 15,300 tonnes, 179 metres
Employment	Construction: 1,600 person years
Contact	R.G.A. Lawrence, Moncton, (506) 858-3770 C40-02

CN RAIL WESTERN CAPACITY EXPANSION	
VALUE: \$ 700 million	
Sponsor	CN Rail
Class - Type	45 - Railway Expansion
Location	Interprovincial - Four western provinces
Description	A major program of expansion of the CN Rail mainline and major terminals through a series of individual capital expenditures in the \$10 million to \$50 million range (totalling some \$600 million to \$750 million). The project will increase handling capacity in the West in terms of the number of trains and tonnage per day of the company's mainlines and major terminals.
Status	Under construction/Under way
Timing	Start - 1980 Completion - 1990
Major Equipment	Rail and track material Track ties Ballast Signal system material
Contact	I.G. MacDonald, Montreal, (514) 877-5085 C17-01

CP-140 LONG RANGE PATROL AIRCRAFT

VALUE: \$ 697 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Various locations across Canada
Description	DND acquired a fleet of eighteen CP-140 Long Range Patrol Aircraft to be used primarily for patrol tasks in Canadian coastal waters. The acquisition phase was completed in 1983 and all aircraft have been delivered. The industrial benefits program for the project runs to 1995; offset proposals will be considered until that time by the prime contractor.
Status	Under construction/Under way
Timing	Start - 1976 Completion - 1995
Contractors	Lockheed Aircraft Corporation - Prime contractor J. Inkley, Burbank, California, (818) 847-4927
Employment	Estimated total potential employment in Canada from the industrial benefits package over the life of the project is in the range of 20,000-25,000 person years.
Contact	E. Norak, Ottawa, (613) 995-5358 2-P04-03

CRUDE OIL PIPELINE SYSTEM EXPANSION - WESTERN CANADA	
VALUE: \$ 114 million	
Sponsor	Interprovincial Pipe Line Limited
Class - Type	46 - Crude Oil Pipeline
Location	Interprovincial - Alberta, Saskatchewan and Manitoba
Description	Expansion of the existing system to increase capacity to 37,000 cubic metres per day. Work will be undertaken in two phases. Phase I will accommodate an increment of 12,000 cubic metres per day of heavy and light crudes and Phase II an additional increment of 25,000 cubic metres per day. Phase I is currently under construction. Phase II requires regulatory approval.
Status	Under construction/Under way
Timing	Start - 1985 Completion - 1986
Major Equipment	Six new pumping stations (Ph. I) Modify two pumping units (Ph. I) 15 new pumping stations (Ph. II) New tank storage, Cromer, Manitoba (Ph. II) Replace 14.2 km 34" pipe (Ph. II) Line 3 injection facilities, Kerrobert and Regina (Ph. II) 54 pumping units (Modify or replace) (Ph. II)
Employment	Construction: 2,500 person years
Contact	R. Paddon, Edmonton, (403) 420-5210 J03-02

DEMPSTER GAS PIPELINE	
VALUE: \$ 4,000 million	
Sponsor	Foothills Pipe Lines (Yukon) Ltd.
Class - Type	46 - Natural Gas Pipeline
Location	Interprovincial - Pipeline to extend from Mackenzie Delta through the N.W.T. and Yukon to interconnect with the Alaska Highway Gas Pipeline at a point near Whitehorse, Yukon.
Description	Construction of a 1,202 km, 864 mm dia. pipeline for transmission of Northern Canada gas to export markets via interconnection with the Alaska Highway Gas Pipeline. Note: The project arose from a 1977 Agreement between Canada and USA with respect to the Alaska Highway Gas Pipeline. Further regulatory activity awaits market demand.
Participants	Nova, An Alberta Corporation (50%) Westcoast Transmission Company Ltd. (50%)
Status	Possible
Major Equipment	Construction equipment: \$558 million Linepipe: 885 million Coating material and foundation material: 73 million Valves, fittings: 40 million Compression and metering equipment, etc.: 222 million
Employment	Construction: 6,000 person years Permanent: 130 employees
Contact	H.N.E. Hobbs, Calgary, (403) 294-4111 F04-02

FLIGHT DATA MODERNIZATION PROJECT (FDMP)	
VALUE: \$ 230 million	
Sponsor	Transport Canada
Class - Type	80 - Government
Location	Interprovincial - Various locations across Canada
Description	Installation of a computerized information system to improve the efficiency of acquiring, processing, transferring and displaying flight data.
Status	Possible
Timing	Start - 1987 Completion - 1996
Major Equipment	Computer Display terminals
Employment	Construction: 68 person years
Contact	H.J. Tolan, Ottawa, (613) 993-4062 2-P04-07

LOCOMOTIVE ACQUISITION	
VALUE: \$ 130 million	
Sponsor	VIA Rail Canada Inc.
Class - Type	45 - Rail Transportation
Location	Interprovincial - Quebec/Ontario (Montreal, Quebec and London, Ontario)
Description	The aquisition of 48 new, high horsepower locomotives to be used on transcontinental lines.
Status	Engineering under way
Timing	Start - May 1985 Completion - April 1987
Major Equipment	48 Diesel electric passenger locomotives, 3,000 HP: \$123 million
Contact	L. Elliot, Montreal, (514) 286-2568 V07-03

LONGHAUL CARS PROJECT	
VALUE: \$ 700 million	
Sponsor	VIA Rail Canada Inc.
Class - Type	45 - Rail Transportation
Location	Interprovincial - Mostly Quebec and Ontario
Description	Procurement of 213 cars of AMTRAK's superliner vintage adapted to the Canadian context for use on Canadian transcontinental routes. The manufacturing will involve supply of parts and components from across Canada including, among other things, stainless steel for car bodies, doors, windows, HVAC units, toilet and sewage systems, interior furnishings, trucks, and electrical systems.
Facilities	Railway tunnel modification (BC), Station modifications (Montreal, Winnipeg), and track upgrading (Ontario, Manitoba): \$ 50 million
Status	Engineering under way
Timing	Start - 1986 Completion - 1992
Major Equipment	Coach cars (77): \$253 million Sleeping cars (93): 306 million Dining cars (43): 141 million
Employment	Construction: 7,550 person years
Contact	C. Cayonette, Montreal, (514) 286-2495 V07-02

MACTUNG MINE	
VALUE: \$ 100 million	
Sponsor	AMAX Northwest Mining Co. Ltd.
Class - Type	61 - Tungsten Mine
Location	Interprovincial - MacMillan Pass between Yukon and Northwest Territories
Description	Construction of a 500 to 1,000 tonnes per day tungsten mine and concentrator.
Facilities	Mine Concentrator Power plant Living accommodation Access road upgrading (Canol Road) Airstrip upgrading (Tischu River)
Status	Engineering under way
Timing	Start - 1986 Completion - 1988
Employment	Construction: 450 person years Permanent: 200 employees
Contact	J.C. Devitt, Vancouver, (604) 659-0541 A15-01

MICROWAVE LANDING SYSTEM (MLS)	
VALUE: \$ 450 million	
Sponsor	Transport Canada
Class - Type	80 - Government
Location	Interprovincial - Airports across Canada
Description	Installation of new Microwave Landing Systems (MLS) as the standard precision approach guidance system in Canada, replacing the present Instrument Landing System (ILS) at Canadian airports.
Status	Engineering under way
Timing	Start - 1985 Completion - 2000
Contact	H.J. Tolan, Ottawa, (613) 993-4062 2-P04-08

POLAR CLASS 8 ICEBREAKER	
VALUE: \$ 450 million	
Sponsor	Transport Canada
Class - Type	80 - Government
Location	Interprovincial - Exact locations to be determined
Description	Construction of a 37,000 ton icebreaker. Contract definition studies are being carried out by Saint John Shipbuilding Ltd., Davie Shipbuilding Ltd., and Burrard Yarrows Ltd. The contract definition phase was completed in March 1985.
Status	Possible
Timing	Start - Jan. 1986 Completion - Jan. 1991
Major Equipment	Propulsion system: - gas turbines, 2 x 25,000 H.P. - diesel engines, 4 x 12,500 H.P. - motors, 100,000 H.P.
Employment	Construction: 4,200 person years Permanent: 168 employees
Contact	A. MacWaters, Ottawa, (613) 996-3177 2-P04-10

POLAR GAS PIPELINE	
VALUE: \$ 3,273 million	
Sponsor	TransCanada Pipelines Limited
Class - Type	46 - Natural Gas Pipeline
Location	Interprovincial - Northwest Territories and Alberta
Description	Construction of a 2,120 km gas pipeline, 914.4 mm in diameter with a capacity of approximately 23 million cubic metres per day and potential for doubling. The pipeline will be a contract carrier.
Facilities	Gathering and field processing (not incl.): \$1,920 million Downstream facilities (not incl.): 413 million Misc. buildings and foundations: 73 million
Participants	TransCanada Pipelines Limited (20%) Tenneco Energy Ltd. (20%) Ontario Energy Corporation (20%) Petro-Canada (20%) Panarctic Oils Ltd. (20%)
Status	Possible
Timing	Start - 1987 Completion - 1991
Major Equipment	Line pipe: \$832.6 million Pipe coating: 92.3 million Valves and fittings: 52.8 million Compressor assemblies: 36.5 million Refrigeration and heating assem.: 34.6 million
Employment	Construction: 3,941 person years Permanent: 456 employees
Contact	D.G. Clark, Toronto, (416) 869-2655 T01-01

RADAR MODERNIZATION PROJECT (RAMP)	
VALUE: \$ 800 million	
Sponsor	Transport Canada
Class - Type	80 - Government
Location	Interprovincial - Various airports across Canada
Description	Procurement and installation of a new primary and secondary air traffic control radar system and new radar display system with associated equipment.
Facilities	22 Primary and secondary radar installations for terminal surveillance radars 17 Secondary surveillance radar installations 29 Radar data processing and display systems
Status	Under construction/Under way
Timing	Start - 1984 Completion - 1994
Contractors	Raytheon - Radar site equipment T.B.D. - Display and data processing
Employment	Construction: 6,000 person years
Contact	H.J. Tolan, Ottawa, (613) 993-4062 2-P04-04

SABLE GAS SYSTEMS - NATURAL GAS TRANSMISSION	
VALUE: \$ 1,000 million	
Sponsor	Sable Gas Systems
Class - Type	46 - Natural Gas Pipeline
Location	Interprovincial - Offshore and mainland and New Brunswick
Description	A project to design, build, own and operate a transmission system carrying natural gas and condensates from offshore facilities to onshore gas conditioning and fractionation plants. Gas sales will be to an export point on the New Brunswick - Maine border. Note that there is also an offshore pipeline portion of the Mobil Venture Gas Development Project listed in this section.
Facilities	Offshore pipeline Onshore pipeline Compressor and metering facilities Gas conditioning plant Natural gas liquids line and district offices Dock facilities Rail access and road
Participants	TransCanada Pipelines (Operator) (50%) Nova Scotia Resources Ltd. (50%)
Status	Possible
Timing	Start - 1988 Completion - 1989
Employment	Construction: 2,900 person years Permanent: 220 employees
Contact	I.A. Thompson, Halifax, (902) 421-3103 S34-01

SHIP REPLACEMENT PROJECT (SRP) PHASE II

VALUE: \$ 2,600 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Exact location not yet established
Description	Design and construction of six frigates similar to vessels in the Canadian Patrol Frigate (CPF) project also listed in this section. Studies are under way to establish the combat systems configuration. An implementation contract is to be awarded in 1987.
Status	Engineering under way
Timing	Start - 1992 Completion - 1995
Employment	Construction: 25,000 person years
Contact	M.J. Colpitts, Ottawa, (613) 996-3177 2-P04-11

TRANSCANADA PIPELINES EXPORT FACILITIES	
VALUE: \$ 826 million*	
Sponsor	TransCanada Pipelines Limited
Class - Type	46 - Natural Gas Pipeline
Location	Interprovincial - Saskatchewan, Manitoba, Ontario and U.S. states of New York and Pennsylvania.
Description	Construction of expansions, interconnections and new pipelines to provide for a large increment of Canadian gas to the north central and north-eastern U.S.A. Canadian suppliers will be able to pursue opportunities in the U.S.A. This project is competing for regulatory approval in Canada and the U.S.A. with the CAN-AM Pipeline project (see the Saskatchewan section). (*NOTE: The Canadian portion is \$826 million while the U.S.A. portion is \$929 million.)
Participants	TransCanada Pipelines Limited Union Gas Great Lakes Gas Transmission) Pipeline companies Niagara Interstate Pipeline) in the U.S.A.
Status	Possible
Timing	Start - 1986 Completion - 1988
Major Equipment	Construction equipment Main linepipe Coating and foundation material Valves and fittings Compression and metering equipment
Employment	Construction: 6,000 person years (Cdn portion only)
Contact	F. Donnelly, Toronto, (416) 869-2353 T01-05

TRIBAL CLASS UPDATE & MODERNIZATION PROJECT (TRUMP)

VALUE: \$ 650 million

Sponsor	Department of National Defence
Class - Type	80 - Government
Location	Interprovincial - Precise locations not yet determined
Description	Update and modernization (mid-life) of four Tribal Class DDH 280 destroyers. A feasibility study has been completed and the contract definition contract was completed in March 1985. Award of the implementation contract is scheduled for late summer 1985.
Status	Engineering under way
Timing	Start - 1985 Completion - 1988 (est.)
Contractors	Litton Systems Limited - Study for contract definition (T. McGuigan, Vice-President)
Employment	Construction: 7,000 person years
Contact	M.J. Colpitts, Ottawa, (613) 996-3177 2-P04-12

VIA HIGH SPEED CORRIDOR PROJECT													
	VALUE: \$ 2,610 million												
Sponsor	VIA Rail Canada Inc.												
Class - Type	45 - Rail Transportation												
Location	Interprovincial - Quebec/Ontario												
Description	Construction of facilities for a high speed passenger rail service (200 - 300 km/h) in the central corridor of Quebec to Windsor which would only operate on passenger tracks. The project's start-up has not been decided and it is estimated that it would require ten years to complete.												
Facilities	<table> <tr> <td>Track:</td><td>\$313 million</td></tr> <tr> <td>Signal Systems:</td><td>185 million</td></tr> <tr> <td>Electrification:</td><td>222 million</td></tr> <tr> <td>Crossings/bridges:</td><td>283 million</td></tr> <tr> <td>Construction:</td><td>563 million</td></tr> <tr> <td>Rolling stock:</td><td>945 million</td></tr> </table>	Track:	\$313 million	Signal Systems:	185 million	Electrification:	222 million	Crossings/bridges:	283 million	Construction:	563 million	Rolling stock:	945 million
Track:	\$313 million												
Signal Systems:	185 million												
Electrification:	222 million												
Crossings/bridges:	283 million												
Construction:	563 million												
Rolling stock:	945 million												
Status	Possible												
Major Equipment	Electrical distribution & traction equipment Signalling and communications equipment Wayside equipment and structures Track Ballast Ties Rail fastenings Bridge materials Traffic control and safety equipment												
Employment	Construction: 73,500 person years												
Contact	R. Bechamp, Montreal, (514) 286-2407 V07-05												

EXPLANATION OF FORMAT AND TERMS USED

Investment Value

As far as possible, project value is quoted in constant 1984 dollars excluding Allowance for Cost of Funds Used During Construction.

Sponsor and Participants

The sponsor listed is generally the owner or operator of a project. If there is more than one participant, as many as space permits are listed under Participants, and their share of the project is indicated. Some respondents may have indicated the share of contributions by entities which may not enjoy ownership rights, e.g., the share of investment value represented by government grants.

Industry, Investment Classification

Each project is grouped under one of the fifteen industry classes listed below. The classification codes are loosely linked to selected Standard Industrial Classification (SIC) codes. The classification is according to a project's output.

Project Classification Codes

- 07 Conventional & Non-Conventional Oil & Gas
- 09 Oil & Gas Exploration
- 25 Wood Industries
- 27 Paper & Allied Products Industries
- 29 Primary Metal Industries
- 36 Refined Petroleum Products
- 37 Chemical & Chemical Products Industries
- 45 Transportation
- 46 Pipelines
- 49 Electric Power
- 61 Metal Mining
- 62 Non-Metallic Mining
- 63 Coal Mining
- 80 Government
- 90 All Other Industries

Geographical Location

Projects are also grouped by geographical location (starting with the Northwest Territories, then working east from B.C.) and within this are grouped alphabetically by project name. Interprovincial projects (involving more than one province or Territory) are listed separately, following those in Newfoundland.

Description

The general description covers the overview and qualitative attributes of each project. It may amplify or clarify some aspects of the project such as status and timing covered by other specific headings. The specific headings follow restricted formats to make comparisons and groupings as clear as possible.

Facilities

This heading contains a list or description of systems, areas or major parts of each project such as transmission lines, docks, substations, and processing stages. Included are any available measures of a facility's capacity and value within the project as a whole.

Status

The listing of projects in the centre of the publication includes three project status levels:

- Possible
- Engineering under way
- Under construction/Under way

These levels were determined based on information in a checklist completed by project sponsors. The checklist questions are:

Please tick the sentence(s) best describing the status of your project and fill in the information where requested:

- A. ☐ While the project is desired by our Company, it is not proceeding at the present time.
- B. ☐ The project is in the formulative or planning stages. A feasibility study:
☐ has been completed. ☐ has not been completed.
- C. ☐ Technical and engineering studies are under way.
A design or development plan:
☐ has been completed. ☐ has not been completed.
- D. ☐ The project is proceeding. Detailed engineering is under way and:
☐ has been completed. ☐ has not been completed.
- E. ☐ Construction is approved to proceed and:
☐ has started. ☐ has not started.
- F. ☐ A prime contractor is required and:
☐ has been selected. ☐ has not been selected.
- G. Procurement of materials and equipment:
☐ has started. ☐ has not started.
- H. ☒ The construction of the project is completed. The plant is in:
☐ a starting-up phase. ☐ partial operation.
☐ fully operational.
- I. ☐ Other (Please describe):

Some amplification and/or clarification of a project's status may be included under **Description**.

Timing

Start and completion years are indicated wherever possible. This heading will not appear when the timing has not been established. In most instances the project could proceed within the next ten years. The Description section may also contain statements which help to understand project timing.

Major Equipment

Project sponsors were asked to provide details on major equipment requirements including information on capacity and cost. Wherever possible, full equipment information has been included in the publication. In a few instances part of the information was not included due to space limitations. We would be happy to provide any information we may have which was not included for this reason.

The project Contact might be a better source of firsthand detailed information for prospective suppliers.

Contractors

Project sponsors were asked to provide details on major service contracting requirements such as the Management, Engineering, Procurement and Construction (MEPC) contractor. Wherever possible, this information has been included in the publication. In a few instances part of the information was not included due to space limitations. We would be happy to provide any information we may have which was not included for this reason.

Employment

Construction employment is normally the total number of person years required during construction; one person for one year is one person year but one person for five years would be five person years. If a different employment assumption is used for construction person years, this is noted, e.g. person years (peak).

Contact

The name, city and telephone number of the person designated by the sponsor company to act as contact for users of the publication is noted.

User Mailing Address Changes

To ensure continued receipt (or register a new user) of the Inventory please complete the form on the last page and return it to the address shown on the form.

Project Number

All projects have been assigned new numbers. These numbers appear as the bottom line of text on each page on the right hand side.



ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
ALASTAIR GILLESPIE & ASSOCIATES	SCOTIA COAL SYNFUELS PROJECT	143
ALBERTA GAS CHEMICALS LTD.	ALBERTA GAS CHEMICALS - AMMONIA PROJECT	33
ALBERTA POWER LTD.	SHEERNESS POWER PLANT	51
	SLAVE RIVER HYDRO	52
ALGOMA STEEL CORPORATION LIMITED	ALGOMA STEEL PLANT IMPROVEMENTS	72
	ALGOMA STEEL SEAMLESS TUBE MILL	73
ALUMINERIE DE BECANCOUR INC.	BECANCOUR ALUMINIUM SMELTER	96
AMAX NORTHWEST MINING CO. LTD.	MACTUNG MINE	171
AMERICAN MOTORS CANADA INC.	BRAMPTON CAR ASSEMBLY PLANT AND RELATED FACILITIES	74
AMOCO CANADA PETROLEUM COMPANY	AMOCO - ELK POINT OIL SANDS PROJECT	34
	NIPISI MISCIBLE FLOOD	48
BC TRANSIT	ADVANCED LIGHT RAPID TRANSIT, PHASE I	15
	ADVANCED LIGHT RAPID TRANSIT, PHASE II	16
BOISE CASCADE CANADA LTD.	KENORA MILL MODERNIZATION	87
BP RESOURCES CANADA LIMITED	BP RESOURCES - OFFSHORE NEWFOUNDLAND	147
	WOLF LAKE 2	55
BRINCO LIMITED	** QUINSAM COAL MINE - SEE QUINSAM COAL LIMITED	
BRITISH COLUMBIA HYDRO & POWER AUTHORITY	GAS PIPELINE TO VANCOUVER ISLAND	18

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
C-I-L INC.		
	C-I-L AMMONIA PLANT EXPANSION	77
CANADIAN ENGINEERING SERVICES LTD.		
	** HEAVY LIFT AIRSHIP - SEE SUTHERLAND AIRSHIP CORPORATION	
CANADIAN PACIFIC LTD.		
	** SEE CP LIMITED	
CANADIAN REYNOLDS METALS CO.		
	REYNOLDS ALUMINUM SMELTER EXPANSION	123
CANSTAR OIL SANDS LTD.		
	CANSTAR (DAPHNE) OIL SANDS	36
CAPE BRETON DEVELOPMENT CORPORATION		
	** SEE GOVERNMENT OF CANADA	
CASCADES INC.		
	CASCADES - RE-OPENING OF I.T.T. MILL	99
CELANESE CANADA INC.		
	ACETIC ACID/VINYL ACETATE PLANT	32
CIGAR LAKE MINING CORPORATION		
	CIGAR LAKE URANIUM MINE AND MILL	58
CITY OF CALGARY		
	CITY OF CALGARY - NORTHWEST LRT PROJECT	37
CITY OF EDMONTON		
	** EDMONTON LRT - SEE PROVINCE OF ALBERTA	
CITY OF EDMONTON POWER		
	** SEE EDMONTON POWER	
CN MARINE INC.		
	** SEE THE CN GROUP OF COMPANIES	
CN RAIL		
	** SEE THE CN GROUP OF COMPANIES	
COMINCO LTD.		
	LEAD SMELTER MODERNIZATION AND EXPANSION	22

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
COMMUNAUTE URBAINE DE MONTREAL		
	EXTENSION OF MONTREAL TRANSIT SYSTEM, LINE #2	102
	EXTENSION OF MONTREAL TRANSIT SYSTEM, LINE #3	103
	EXTENSION OF MONTREAL TRANSIT SYSTEM, LINE #5, PHASE I	104
	EXTENSION OF MONTREAL TRANSIT SYSTEM, LINE #5, PHASE II	105
	EXTENSION OF MONTREAL TRANSIT SYSTEM, LINE #7	106
CONSOLIDATED-BATHURST INC.		
	BATHURST PULP MILL MODERNIZATION	130
	QUEBEC MILLS MODERNIZATION AND EXPANSION	118
CP LIMITED		
	ROGERS PASS TUNNEL PROJECT	27
CROWS NEST RESOURCES LTD.		
	** SEE SHELL GROUP OF COMPANIES	
DENISON MINES LTD.		
	COALSPUR THERMAL COAL DEVELOPMENT	38
DENISON-POTACAN POTASH CO.		
	NEW BRUNSWICK POTASH PROJECT	133
DEPARTMENT OF NATIONAL DEFENCE		
	** SEE GOVERNMENT OF CANADA	
DOFASCO INC.		
	CAST SLAB PROGRAM	76
DOME PETROLEUM LIMITED		
	DOME BEAUFORT EXPLORATION PROGRAM	11
	EAST SABLE EXPLORATION AGREEMENT	137
DOMTAR INC.		
	WINDSOR MILL REHABILITATION	128
DOW CHEMICAL CANADA INC.		
	POLYETHYLENE PLANT	50
DU PONT CANADA INC.		
	HYDROGEN PEROXIDE PLANT	66
EAGLET MINES LTD.		
	EAGLET FLUORSPAR MINE	17

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
EDMONTON POWER		
	GENESEE GENERATING STATION PHASE I	42
ELDORADO RESOURCES LIMITED		
	COLLINS BAY MINE - ELDOR MINES	59
ESSO COMPANIES		
	** SEE IMPERIAL OIL LIMITED	
FEDERATED COOPERATIVES		
	REGINA HEAVY OIL UPGRADER	63
FOOTHILLS PIPE LINES (YUKON) LTD.		
	ALASKA HIGHWAY GAS PIPELINE, PHASE II	157
	CAN-AM PIPELINE PROJECT	57
	DEMPSTER GAS PIPELINE	167
GAZ INTER-CITE QUEBEC INC.		
	QUEBEC NATURAL GAS DISTRIBUTION NETWORK	119
	QUEBEC NATURAL GAS PIPELINE LATERALS	120
GENERAL MOTORS OF CANADA LIMITED		
	OSHAWA STAMPING PLANT	90
GO-ALRT		
	** GO-ALRT TRANSIT LINES - SEE PROVINCE OF ONTARIO	
GOVERNMENT OF CANADA		
CAPE BRETON DEVELOPMENT CORPORATION		
	DONKIN-MORIEN MINE	135
	LINGAN PHALEN MINE	140
DEPARTMENT OF NATIONAL DEFENCE		
	CANADIAN PATROL FRIGATE (CPF) PROGRAM	159
	CANADIAN SUBMARINE ACQUISITION PROJECT (CASAP)	160
	CF-18 NEW FIGHTER AIRCRAFT	161
	CP-140 LONG RANGE PATROL AIRCRAFT	165
	SHIP REPLACEMENT PROJECT (SRP) PHASE II	177
	TRIBAL CLASS UPDATE & MODERNIZATION PROJECT (TRUMP)	179

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
GOVERNMENT OF CANADA (CONT'D)		
PFRA & SASKATCHEWAN DEPT. OF AGRICULTURE	RIVERHURST EAST IRRIGATION PROJECT	65
TRANSPORT CANADA		
	CANADAIR WATER BOMBER PROJECT	97
	FLIGHT DATA MODERNIZATION PROJECT (FDMP)	168
	MICROWAVE LANDING SYSTEM (MLS)	172
	POLAR CLASS 8 ICEBREAKER	173
	RADAR MODERNIZATION PROJECT (RAMP)	175
VIA RAIL CANADA INC.		
	LOCOMOTIVE ACQUISITION	169
	LONGHAUL CARS PROJECT	170
	MONTREAL MAINTENANCE CENTRE	114
	VIA HIGH SPEED CORRIDOR PROJECT	180
GULF CANADA RESOURCES INC.		
	GULF BEAUFORT SEA EXPLORATION AGREEMENT	13
HONDA OF CANADA MANUFACTURING INC.		
	HONDA OF CANADA MANUFACTURING PLANT	85
HUSKY OIL OPERATIONS LTD.		
	BI-PROVINCIAL PROJECT	158
HUSKY/BOW VALLEY EAST COAST PROJECT		
	HUSKY/BOW VALLEY GRAND BANKS EXPLORATION	151
HYDRO-QUEBEC		
	DELANEY HYDRO PROJECT	100
	EXPANSION OF MANIC 5	101
	JAMES BAY, LA GRANDE LG2 EXPANSION	107
	JAMES BAY, LA GRANDE SEVENTH TRANSMISSION LINE	108
	LA CITIERE - ADDITION OF GAS TURBINES	109
	LA GRANDE PHASE II	110
	MADAWASKA ELECTRIC POWER LINES AND SWITCHYARD	111
	MAJOR RECONSTRUCTION OF LES CEDRES GENERATING STATION	112
	MERCIER - ADDITION OF 60 MW CAPACITY AND TRANSMISSION LINE	113
	NEPOOL ELECTRIC POWER LINE AND SWITCHYARD	115
	NICOLET AC-DC CONVERTER STATION	116
	RADISSON/NICOLET/DES CANTONS TRANSMISSION LINE	121
	ROBERTSON LAKE HYDRO	124
	UNDERWATER ELECTRIC CABLE TO ILES-DE-LA-MADELEINE	127

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
IMPERIAL OIL LIMITED		
ESSO RESOURCES CANADA LTD.		
	COLD LAKE PRODUCTION PROJECTS (PHASES 1-6)	39
	ESSO BEAUFORT SEA EXPLORATION	12
	ESSO EAST COAST EXPLORATION PROJECT	148
	JUDY CREEK MISCIBLE FLOOD PROJECTS (A&B POOLS)	44
	KUTCHO CREEK MINE	21
	MIDWEST URANIUM MINE	62
	TAGLU GAS PLANT	14
INCO LIMITED		
	SMELTER IMPROVEMENT	94
	THOMPSON OPEN PIT NICKEL MINE	71
INLAND NATURAL GAS CO. LTD.		
	GAS TRANSMISSION AND DISTRIBUTION ON VANCOUVER ISLAND	19
INTERPROVINCIAL PIPE LINE LIMITED		
	CRUDE OIL PIPELINE SYSTEM EXPANSION - WESTERN CANADA	166
KAL IUM CHEMICALS		
	** POTASH MINE - SEE PPG CANADA INC.	
LABRADOR GROUP		
	** SEE PETRO-CANADA- OFFSHORE LABRADOR OIL & GAS EXPLORATION	
LAC MINERALS LTD.		
	HEML0	84
LOWER CHURCHILL DEVELOPMENT CORP.		
	** SEE NEWFOUNDLAND AND LABRADOR HYDRO	
MACMILLAN BLOEDEL LIMITED		
	HARMAC PULP MILL MODERNIZATION	20
MANALTA COAL LTD.		
	MCLEOD RIVER COAL PROJECT	46
	MERCOAL PROJECT	47

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
MANITOBA HYDRO		
	LIMESTONE GENERATING STATION	68
	NELSON RIVER BIPOLE II, STAGES 2 & 3	69
	NELSON RIVER BIPOLE III, STAGE 1	70
MARITIME NUCLEAR		
	** SEE NEW BRUNSWICK ELECTRIC POWER COMMISSION	
MOBIL OIL CANADA LTD.		
	HIBERNIA OIL DEVELOPMENT	150
	VENTURE GAS DEVELOPMENT	146
	WESTERN CANADA LNG PROJECT	30
MONTREAL URBAN COMMUNITY		
	** SEE COMMUNAUTE URBAINE DE MONTREAL	
NEW BRUNSWICK ELECTRIC POWER COMMISSION		
	COLESON COVE	131
	GRAND LAKE THERMAL UNIT #9	132
	POINT LEPREAU NUCLEAR STATION UNIT #2	134
NEWFOUNDLAND AND LABRADOR HYDRO		
	LOWER CHURCHILL PROJECT, PHASE I	152
	LOWER CHURCHILL PROJECT, PHASE II	153
NEWGRADE ENERGY INC.		
	** SEE FEDERATED COOPERATIVES	
NORANDA INC.		
	NORANDA HEMLO PROJECT	88
NOVA SCOTIA POWER CORPORATION		
	POINT TUPPER GENERATING UNIT #3	141
	POINT TUPPER GENERATING UNIT #4	142
NOVA, AN ALBERTA CORPORATION		
	** CANSTAR (DAPHNE) PROJECT - SEE CANSTAR OIL SANDS LTD.	
	EXPANSION OF NOVA'S GAS PIPELINE NETWORK IN ALBERTA	41
ONTARIO HYDRO		
	BRUCE 'B' NUCLEAR GENERATING STATION	75
	DARLINGTON GENERATING STATION	78
	PICKERING 'A' RETUBING	92

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
PANARCTIC OILS LTD.		
	ARCTIC EXPLORATION	9
	BENT HORN EXPLORATION AND DEVELOPMENT	10
PETRO-CANADA GROUP		
PETRO-CANADA INC.		
	** WESTERN CANADA LNG PROJECT - SEE MOBIL OIL CANADA LTD.	
PETRO-CANADA PRODUCTS		
	CANMET HYDROCRACKER PROJECT	98
PETRO-CANADA RESOURCES		
	GRAND BANKS OIL DEVELOPMENT PROJECT	149
	MONKMAN COAL PROJECT	24
	NEWFOUNDLAND OFFSHORE EXPLORATION	154
	OFFSHORE LABRADOR OIL AND GAS EXPLORATION	155
POTASH CORPORATION OF SASKATCHEWAN MINING LTD.		
	BREDENBURY POTASH MINE	56
	LANIGAN PHASE II EXPANSION	61
PPG CANADA INC.		
	KALIUM CHEMICALS POTASH MINE EXPANSION	60
PRAIRE FARM REHABILITATION ADMINISTRATION (PFRA)		
	** SEE GOVERNMENT OF CANADA - PFRA	
PROVINCE OF ALBERTA		
	EDMONTON LRT	40
PROVINCE OF NOVA SCOTIA		
	** FUNDY BAY TIDAL POWER - SEE TIDAL POWER CORPORATION	
PROVINCE OF ONTARIO		
	GO-ALRT - CENTRAL LAKESHORE	80
	GO-ALRT - PICKERING TO OSHAWA SECTION	81
	GO-ALRT - WEST EXTENSION	82
QUINSAM COAL LIMITED		
	QUINSAM COAL MINE	26

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
RAILWAY ASSOCIATION OF CANADA	ADVANCED TRAIN CONTROL SYSTEMS	156
REED INC.	PAPER MACHINE MODERNIZATION PROGRAM	117
REGIONAL MUNICIPALITY OF OTTAWA-CARLETON	OTTAWA-CARLETON RAPID TRANSIT SYSTEM	91
REPAP ENTERPRISES INC.	ACADIA COATED PAPER PROJECT	129
REXFOR	REXFOR - RE-OPENING OF I.T.T. MILL	122
RIO ALGOM LIMITED	EAST KEMPTVILLE TIN MINE	136
SABLE GAS SYSTEMS	SABLE GAS SYSTEMS - NATURAL GAS TRANSMISSION	176
SASKATCHEWAN POWER CORPORATION	NIPAWIN HYDROELECTRIC STATION	64
	SASKATCHEWAN 600 MW THERMAL POWER PROJECT	66
	SASKATCHEWAN POWER - NATURAL GAS DISTRIBUTION PROGRAM	67
SCOTIA SYNFUELS COMP.	** SEE ALASTAIR GILLESPIE & ASSOCIATES	
SHELL GROUP OF COMPANIES		
CROWS NEST RESOURCES LTD.	BRYAN MOUNTAIN BITUMINOUS COAL MINE	35
	LINE CREEK COAL EXPANSION	23
	TELKWA BITUMINOUS COAL MINE	29
SHELL CANADA LTD.	SCOTIAN SHELF EXPLORATION, PROGRAM 2	144
	SCOTIAN SLOPE EXPLORATION	145

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
SHELL GROUP OF COMPANIES (CONT'D)		
SHELL CANADA RESOURCES LIMITED		
PEACE RIVER EXPANSION PROJECT		49
STELCO INC.		
NO. 1 COMBINATION BLOOM/SLAB AND NO. 2 SLAB CASTER		89
REPAIR/REPLACEMENT OF COKE OVEN BATTERIES		93
SUTHERLAND AIRSHIP CORPORATION		
HEAVY LIFT AIRSHIP PROJECT		43
SYNCRUDE CANADA LTD.		
SYNCRUDE DEBOTTLENECK PROJECT		53
SYNCRUDE EXPANSION		54
TEMBEC INC.		
TEMBEC - RE-OPENING OF I.T.T. MILL		125
TEMCELL BCTMP PULP MILL		126
THE CN GROUP OF COMPANIES		
CN MARINE INC.		
CN MARINE PASSENGER FERRY I		162
CN MARINE PASSENGER FERRY II		163
CN RAIL		
CN RAIL WESTERN CAPACITY EXPANSION		164
TIDAL POWER CORPORATION		
FUNDY BAY TIDAL POWER PROJECT - CUMBERLAND BASIN		138
FUNDY BAY TIDAL POWER PROJECT - MINAS BASIN		139
TORONTO TRANSIT COMMISSION		
FUTURE RT		79
HARBOURFRONT - SPADINA - CNE LRT		83
TORONTO SUBWAY CARS		95
TRANSALTA UTILITIES CORP.		
KEEPPHILLS GENERATING STATION, UNITS 3 & 4		45

ALPHABETICAL LIST OF KEY SPONSOR COMPANIES AND THEIR PROJECTS

COMPANY NAME	PROJECT NAME	PAGE
TRANSCANADA PIPELINES LIMITED		
	POLAR GAS PIPELINE	174
	TRANSCANADA PIPELINES EXPORT FACILITIES	178
TRANSPORT CANADA		
	** SEE GOVERNMENT OF CANADA	
VIA RAIL CANADA INC.		
	** SEE GOVERNMENT OF CANADA	
WELDWOOD OF CANADA		
	** QUINSAM COAL MINE - SEE QUINSAM COAL LIMITED	
WESTCOAST TRANSMISSION COMPANY LTD.		
	NITROGEN FERTILIZER PLANT	25
WESTERN PULP INC.		
	** SQUAMISH PULP MILL - SEE WESTERN PULP LIMITED PARTNERSHIP	
WESTERN PULP LIMITED PARTNERSHIP		
	SQUAMISH PULP OPERATION REBUILD	28
WESTMIN RESOURCES LIMITED		
	WESTMIN H-W MINE	31

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